S. Hrg. 101-174 Pt. 1

# AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1990

## HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

FIRST SESSION

ON

## H.R. 2883

AN ACT MAKING APPROPRIATIONS FOR RURAL DEVELOPMENT, AGRICULTURE, AND RELATED AGENCIES PROGRAMS FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1990, AND FOR OTHER PURPOSES

### PART 1 (Pages 1–613)

COMMODITY FUTURES TRADING COMMISSION
DEPARTMENT OF AGRICULTURE
FARM CREDIT ADMINISTRATION
FARM CREDIT SYSTEM ASSISTANCE BOARD
FOOD AND DRUG ADMINISTRATION

Printed for the use of the Committee on Appropriations

U.S. GOVERNMENT PRINTING OFFICE
92-941 ⇆ WASHINGTON : 1989

S181-28

For sale by the Superintendent of Documents, Congressional Sales Office
U.S. Government Printing Office, Washington, DC 20402

## COMMITTEE ON APPROPRIATIONS

ROBERT C. BYRD, West Virginia, *Chairman*

DANIEL K. INOUYE, Hawaii
ERNEST F. HOLLINGS, South Carolina
J. BENNETT JOHNSTON, Louisiana
QUENTIN N. BURDICK, North Dakota
PATRICK J. LEAHY, Vermont
JIM SASSER, Tennessee
DENNIS DECONCINI, Arizona
DALE BUMPERS, Arkansas
FRANK R. LAUTENBERG, New Jersey
TOM HARKIN, Iowa
BARBARA A. MIKULSKI, Maryland
HARRY REID, Nevada
BROCK ADAMS, Washington
WYCHE FOWLER, JR., Georgia
J. ROBERT KERREY, Nebraska

MARK O. HATFIELD, Oregon
TED STEVENS, Alaska
JAMES A. McCLURE, Idaho
JAKE GARN, Utah
THAD COCHRAN, Mississippi
ROBERT W. KASTEN, JR., Wisconsin
ALFONSE M. D'AMATO, New York
WARREN RUDMAN, New Hampshire
ARLEN SPECTER, Pennsylvania
PETE V. DOMENICI, New Mexico
CHARLES E. GRASSLEY, Iowa
DON NICKLES, Oklahoma
PHIL GRAMM, Texas

JAMES H. ENGLISH, *Staff Director*
MARY S. DEWALD, *Chief Clerk*
J. KEITH KENNEDY, *Minority Staff Director*

---

### SUBCOMMITTEE ON AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES

QUENTIN N. BURDICK, North Dakota, *Chairman*

DALE BUMPERS, Arkansas
TOM HARKIN, Iowa
BROCK ADAMS, Washington
WYCHE FOWLER, JR., Georgia
J. ROBERT KERREY, Nebraska
ROBERT C. BYRD, West Virginia
ex officio

THAD COCHRAN, Mississippi
JAMES A. McCLURE, Idaho
ROBERT W. KASTEN, JR., Wisconsin
ARLEN SPECTER, Pennsylvania
CHARLES E. GRASSLEY, Iowa
MARK O. HATFIELD, Oregon
ex officio

*Professional Staff*
ROCKY L. KUHN
DEBORAH A. DAWSON
IRMA I. HANNEMAN (Minority)
*Administrative Support*
TAWANDA SULLIVAN

# CONTENTS

WEDNESDAY, MARCH 8, 1989

Department of Agriculture: Page
- Office of the Secretary ........ 1

TUESDAY, MARCH 14, 1989

Department of Agriculture:
- Agricultural Research Service ........ 93
- Cooperative State Research Service ........ 93
- Extension Service ........ 93

THURSDAY, MARCH 16, 1989

Department of Agriculture:
- Food and Nutrition Service ........ 221
- Human Nutrition Information Service ........ 221

TUESDAY, APRIL 4, 1989

Commodity Futures Trading Commission ........ 315
Farm Credit System Assistance board ........ 345
Farm Credit Administration ........ 355
Food and Drug Administration ........ 393

THURSDAY, APRIL 6, 1989

Department of Agriculture:
- Animal and Plant Health Inspection Service ........ 503
- Food Safety and Inspection Service ........ 503
- Agricultural Marketing Service ........ 503

# AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1990

---

WEDNESDAY, MARCH 8, 1989

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
*Washington, DC.*

The subcommittee met at 10:05 a.m., in room SD–124, Dirksen Senate Office Building, Hon. Dale Bumpers presiding.

Present: Senators Bumpers, Harkin, Adams, Fowler, Kerrey, Cochran, McClure, Kasten, Specter, and Grassley.

## DEPARTMENT OF AGRICULTURE

### OFFICE OF THE SECRETARY

### STATEMENT OF CLAYTON YEUTTER, SECRETARY OF AGRICULTURE

ACCOMPANIED BY:

PETER MYERS, DEPUTY SECRETARY OF AGRICULTURE
STEPHEN B. DEWHURST, BUDGET OFFICER

### OPENING REMARKS

Senator **BUMPERS**. Good morning, ladies and gentlemen.

Mr. Secretary, I want to give a special welcome to you as the new Secretary of Agriculture, and assure you that both I and all the members of this committee look forward to working with you.

Today we begin our hearings in reviewing the 1989 budget for Agriculture, Rural Development and Related Agencies.

It is appropriate that we begin with the Secretary in order to get an overview of the budget for the Department. With the Secretary we have Peter C. Myers, Deputy Secretary of Agriculture, and Stephen Dewhurst, Budget Officer for the Department.

The President has requested a total of $42.2 billion in USDA programs that will be under this subcommittee.

Mr. Secretary, I will leave further explanation of the budget to you. We will have some further questions later, but at this point, I want to recognize other Senators for opening statements.

Senator Kerrey, do you have any opening statement?

Senator **KERREY**. None, Mr. Chairman.

Senator **BUMPERS**. Fine.

With that, Mr. Secretary, we will expedite this hearing, and look forward to hearing from you.

## STATEMENT OF SECRETARY YEUTTER

Mr. YEUTTER. Thank you very much, Mr. Chairman.

It is good to be here, and I look forward to seeing much more of you in the years to come.

I would like to begin with a quick overview of the economic situation. I will not cover my prepared statement, because I am sure that you all have it available.

Senator BUMPERS. People who can extemporize are always welcome here.

Mr. YEUTTER. Thank you.

We have discovered that time is precious in this business of government.

## ECONOMIC SITUATION OVERVIEW

First of all, we have seen a bit of good news on the agricultural scene over the last couple of years. This is the first time in a substantial period of time that we have had good news. It has not been all good news, as both you and Senator Kerrey know, because we had a rather severe drought throughout the Midwest last year.

It did not affect Nebraska quite so much as it did some of the States further east. Drought is a potential concern for 1989 as well, in that part of the country.

We have had some difficult weather in Arkansas in the last few days, as well, which has caused some problems. So we are in what seems to be some unusual weather patterns, and it is a bit difficult to predict just what the implications of that may be for the fiscal year 1990 budget.

If one goes back a bit, and looks at what has happened in fiscal year 1988 and fiscal year 1987, there is at least some cause for rejoicing with the improvements that have taken place.

Our exports, for example, Mr. Chairman, are going to be somewhere around $38 billion this year, the highest level they have reached in a long period of time, and a dramatic increase over where they were 2 or 3 years ago.

In terms of export volumes, the quantities that we are shipping are very close to the alltime highs that were reached earlier in this decade. The export picture has improved significantly as a result of a number of factors that have worked in our favor.

Net cash farm income is also up substantially for 1988. It reached $57 billion, which was just a hair below the alltime record high. So, notwithstanding the drought, we had one of the best years in history here in the United States.

Regrettably, too much of that has come from the Federal Government in terms of its long-term sustainability. In other words, it is great to see net cash incomes at $57 billion, but it would be a whole lot better if that $57 billion came out of the marketplace rather than from the American taxpayer.

Senator Kerrey will remember some of the articles in the Nebraska papers here in recent weeks that have noted that about two-thirds of Nebraska's farm income comes from the Federal Government. That is just too much for it to be a long-term healthy situation, and the same thing is true of a good number of other States in this country.

Land values have begun to improve, and that has also provided some relief, Mr. Chairman. As you know, one of the difficulties in the eighties was that net worth statements deteriorated significantly in agriculture. That put a great deal of pressure on farm borrowers, whether they were borrowing from the Farm Credit System, the Farmers Home Administration, commercial banks, or production credit associations. There were a lot of foreclosures that took place around the country because of the deterioration of those net worth statements.

They are beginning to improve a little bit, and land values are up—nearly everywhere, as I recall—in 1988. They were up in particularly significant amounts or percentages in some of the areas that were hurting the most.

That makes lenders a whole lot happier, and when lenders are happier, that means the borrowers are happier too.

The caveat to all of this, as I indicated earlier, is that we do not yet know what will happen with weather conditions in 1989. The other caveat to that is that many of those net worth statements are still quite fragile. We are not out of the woods totally by any means in agriculture.

The other caveat is that interest rates have been creeping up in recent weeks, and interest rates are a major input cost to agriculture. If they continue to creep up, that is going to be a bit troublesome.

## TRADE REFORM

I would like to mention trade reform for just a moment. There is no need to cover this in detail, but I do so because we will soon move toward the final months of the Uruguay round of multilateral trade negotiations, and the outcome of that exercise inevitably will have an impact on this budget in the coming years.

How much of an impact this will be is yet to be seen. It is not likely to be felt in the fiscal year that is under consideration today, fiscal year 1990, because the negotiations will still be underway in fiscal year 1990. But it certainly will have an impact in some manner on the budget for fiscal year 1991.

If the negotiations do not go well, then it certainly is possible that the budget for 1991 could increase, because of the trade distortions that exist around the world, and the competition that we face from export subsidies, import quota programs, and a lot of other elements.

If, on the other hand, the negotiations do succeed, as we hope, then we ought to be able to adjust our farm programs in this country accordingly over the next several years, and hopefully successful negotiations will permit us to save some money.

In other words, if we can get other folks around the world to reduce their dependance on trade-distorting subsidy programs, we ought to be able to reduce our own dependance on trade-distorting subsidy programs, and that would be good news for taxpayers everywhere, including taxpayers here in the United States. That is our principal objective in these trade negotiations.

We will find out by the end of 1990 whether our objectives are achieved. That is now the responsibility of Ambassador Calla Hills, of course, but we will certainly participate to some extent with her in that endeavor.

### FISCAL YEAR 1990 BUDGET

Now, zeroing in for just a moment, Mr. Chairman, on the budget itself, as you know, the budget that was submitted to the Congress by President Bush in his address to the joint session on February 9 calls for an adjustment in price and income support programs in agriculture of about $1.1 billion.

It is my challenge to determine how we can best make that adjustment, and we need to do the necessary economic analysis to come forth with recommendations.

We will do that in a systematic way, and try to develop mechanisms that will achieve that level of budget savings while minimizing any impact out in farm country in terms of income supports or safety nets. Likewise, we will try to do it in such a way as to minimize any impact on the Uruguay Round negotiations.

That is not easily done, but we will certainly work on it, and come forth with recommendations as to how that will occur.

I do want to put that into some perspective, because the amounts that we are talking about in the fiscal year 1990 budget for price and income supports are actually higher than those in the fiscal year 1989 budget, if one eliminates the sums that are encompassed in fiscal year 1989 for emergency drought relief.

### FISCAL YEAR 1989 BUDGET IMPACT OF EMERGENCY DROUGHT RELIEF

Just to place it in perspective, the fiscal year 1989 budget in the income and price support area is $13.8 billion. But of that $13.8 billion, around $4.5 billion is for emergency drought relief. So, the more traditional price and income supports really amount to about $9.3 billion for 1989.

Senator BUMPERS. Mr. Secretary, let me interrupt you for just a moment, to be sure that I understand that. Are you saying drought relief in the years 1988 and 1989, or is that just for 1988?

Mr. YEUTTER. I will let Mr. Dewhurst give you a precise answer, but I believe that is a fiscal year 1989 figure.

Mr. DEWHURST. Yes, sir; the outlays from the 1988 drought bill take place in fiscal year 1989, so they are all fiscal year 1989 outlays.

Senator BUMPERS. And we already expended that $4.5 billion?

Mr. DEWHURST. No, sir; the signup is still in process, but the money will be spent in fiscal year 1989.

Senator BUMPERS. Then for fiscal year 1989 we were anticipating $13.5 billion for the CCC, is that right?

Mr. DEWHURST. No; in the budget last year, we had a far higher number—about $17 billion.

Senator BUMPERS. What was the $13.5 billion that the Secretary just mentioned?

Mr. DEWHURST. That is the current 1989 estimate for the Commodity Credit Corporation.

Senator BUMPERS. And $4.5 billion of that is for drought relief.

Mr. DEWHURST. Yes, sir; that is drought relief. The remainder is the base price support programs.

Senator **Bumpers**. Well, just to put this to bed right now—so that we don't get into it later, and I apologize for interrupting, Mr. Secretary—are you telling me that without the $4.5 billion for drought relief this past year, then, the outlays for the CCC program would have only been about $9 billion?

Mr. **Yeutter**. $9.3 billion, that is correct.

Senator **Bumpers**. That's mightily encouraging. Thank you.

Mr. **Yeutter**. A lot of that, of course, is because of the improvement in price levels. One of the reasons that we call for a larger sum there in fiscal year 1990 is because if we have more normal production patterns in fiscal year 1990, we will have additional volumes involved, and the expectation is that the price and income supports will have to be somewhat higher. So it really goes from $9.3 billion up to $10.5 billion.

But if you compare that to the $13.8 billion, it looks like a decrease. If you compare it to the $9.3 billion, it is an increase. So it depends upon one's perspective.

But at any rate, that is one of the principal budgetary challenges that is before us.

### FOOD PROGRAMS

One other point that I would like to make, just as a matter of edification is the difference between the Reagan budget and the Bush budget for food assistance programs.

The Reagan budget submission to the Congress would have called for the elimination of cash and commodity subsidies for meals served in the Child Nutrition Program for children from families with incomes greater than 185 percent of the poverty level. This proposal is not contained in the Bush administration budget.

In essence, then, the food programs, including the School Lunch Program, are fully funded in the Bush budget, and that should eliminate one potentially contentious issue in this deliberative process.

### GROUND WATER

A third point I would make just to articulate one of the priorities of attention relates to ground water. This an area of concern for just about everybody, where environmental issues are coming to the fore. There is no doubt in my mind, Mr. Chairman, and members of the committee, that all of us are going to be spending more time on environmentally related issues in the next few years, and they are going to enter the budget debates as well. It is going to happen on a whole host of areas for us—it will be the Forest Service, the Soil Conservation Service, the ASCS programs, and a lot of others.

It is important that we all devote attention to that issue, and generate some creativity in handling these challenges. We attempt to do so, at least to some degree, in this budget, Mr. Chairman, by adding another $41 million into an effort that specifically is related to ground water problems. The number before was somewhere in the vicinity of $140 million, and it will now go up to over $181 million.

The $41 million does not seem like a lot of money in a multibillion-dollar budget, but it is significant for the kinds of efforts that are involved in these programs. That thrust will be a significant one, and one, it seems to me, that ought to bear the praises of everyone who is interested in environmental issues.

Hopefully, that proposal will generate broad public support, as well as support here within the committee.

## LOAN PROGRAMS

Turning to another high-cost issue within the USDA budget, we should perhaps talk for just a minute about Farmers Home Administration loan programs.

This budget will reduce, in a rather significant way, the expenditure levels of the Farmers Home Administration. It does that through two particular mechanisms. One is by continuing to shift the farm and rural development loan programs from what have traditionally been direct loans into loan guarantees. That switch began a number of years ago, and this budget continues that trend.

It is simply more cost-effective for the Government to carry out these programs through loan guarantees, in contrast to direct loans, and that is why this trend has continued in the budget.

On what may be a somewhat more controversial modus operandi, the budget also shifts rural housing programs in a considerable way from the traditional lending programs into the use of vouchers. Vouchers have been used in urban housing programs by the Department of Housing and Urban Development for a substantial period of time, and apparently with some success. This budget would apply that same modus operandi in rural areas.

That, too, provides a substantial cost saving in the budget. So, there, in summary, is where the principal budgetary adjustments occur.

There are other proposals, Mr. Chairman, but it might be more appropriate to respond to those in questions. I think that we have covered the principal adjustments that are in the budget, as compared to prior years.

## PREPARED STATEMENT

Senator **Bumpers**. Mr. Secretary, thank you very much. Your complete statement will be made part of the record.

[The statement follows:]

### Statement of Clayton Yeutter

Mr. Chairman and members of the Committee, it is a privilege to appear before this Committee as the Secretary of Agriculture to discuss the programs of the Department of Agriculture and our fiscal year (fiscal year) 1990 budget proposals.

As we begin this new Administration, it is important that a cooperative working relationship be established with the Congress. My purpose here today is to further that cooperation. We at the Department of Agriculture want to work closely with the Congress in order to strengthen agriculture. All of us know how important agriculture is to the overall economy. For agriculture to remain strong, however, our farmers and ranchers must be able to operate in a favorable economic environment. To keep the economic situation favorable, we must continue to lower the Federal deficit. This fact above all others places severe constraints on the level of funding that can be requested by the Administration and be appropriated by the Congress for the Department of Agriculture. Choices have to be made among alternative spending proposals since funds are limited.

Before addressing the fiscal year 1990 budget, I would like to briefly review the current agricultural situation and outlook for the future.

### CURRENT AGRICULTURAL SITUATION AND OUTLOOK

The agricultural economy as a whole is continuing to make real progress in recovering from the severe economic and financial distress of the early to mid-1980's. Agricultural exports in fiscal year 1988 were $35.3 billion, up $9 billion from 1986, for a recovery of about one-half the $17.5 billion drop in exports which had occurred over the 1981 to 1986 period. In quantity terms, 1988 exports exceeded the 1986 level by over one-third. Net cash farm income was $57 billion in 1988, nearly the same as the record 1987 level. After 5 years of decline, land values increased by 3 percent in 1987 and by about 6 percent in 1988. Total farm debt has been reduced by over $50 billion since 1983. Clearly, the economic recovery in agriculture has been significant in many respects, although some problems and uncertainties remain.

The economic recovery is also reflected in improved financial conditions for farm lenders. Prospects for the Farm Credit System have improved and loan volume is projected to increase in 1989 after a decline of about 40 percent since 1982. Most commercial farm lenders report stronger loan portfolios in 1988 with declines in the number of delinquent accounts, write-offs, and foreclosures. The number of farm bank failures declined from 75 in 1987 to 41 in 1988.

The turnaround has been facilitated by fundamental changes in Government programs to allow more competitive pricing of U.S. farm products in world trade. Expanded exports have been a major factor in reducing burdensome surplus stocks and increasing commodity prices. Stronger markets through competitive pricing have contributed to important reductions in program costs seen over the past year or two. Even so, dependence on Government payments remains fairly high for producers of some commodities.

The 1988 drought, which reduced production of several major crops, including corn, soybeans and wheat, has affected the farm financial situation. Reduced supplies have substantially boosted most crop prices. The higher prices have helped maintain a high cash income level for those farmers with supplies to sell and for the sector as a whole.

However, the drought dealt a severe financial blow to many producers in drought areas who lost much of their crop and who did not have prior-year crops to sell. It also placed a heavy burden on livestock, poultry, and dairy producers who were faced with higher feed costs. Special drought assistance and Federal crop insurance payments softened the impact significantly for many of those who were hurt by the drought.

Despite the problems caused by drought losses, the total number of financially vulnerable commercial farms has declined. About 5 percent of our farm businesses were financially vulnerable (with debt/asset ratios over 40 percent and negative net farm income) at the beginning of 1988.

This was a dramatic improvement from 2 years earlier when about 10 percent of the farms were considered financially vulnerable. However, there are still a substantial number of financially vulnerable farms. Many of these are Farmers Home Administration borrowers. Those farmers with prospects for recovery will be assisted through write-downs and other servicing actions.

### OUTLOOK FOR 1989

U.S. commodity supplies are smaller this year since the drought and acreage reduction programs in 1988 combined to reduce crop production. Meat output will likely be reduced, as well. However, consumers should have ample food supplies at only moderately higher prices, which are expected to be up about 3 to 5 percent in 1989.

In order to assure adequate supplies to maintain our position as a reliable supplier in the world market, the Department has lowered acreage reduction requirements for several key crops in 1989. Roughly one-half of the 54 million acres held out of production in 1988 under annual program provisions is available to be brought back into production in 1989. Crop production levels in 1989 may be up sharply due to expanded acreage and increased yields.

Agricultural exports are projected to rise to about $38 billion in fiscal year 1989 compared to $35.3 billion for last year. Due to reduced supplies until the 1989 crop is harvested, the physical volume of exports will be down somewhat, but higher prices should more than offset the volume reduction. The outlook, of course, will be sensitive to supply developments both in the U.S. and overseas over the coming months. The longer term outlook for exports will be highly dependent on policy developments both in the U.S. and abroad as well as on general economic conditions.

Farm production expenses are likely to increase moderately in 1989, particularly since crop acreage will expand. Net farm income, which includes changes in the value of commodity inventories held by farmers, is expected to be about $44–48 billion in 1989, up from $39 billion in 1988. However, net cash farm income is estimated to be about $48–52 billion in 1989 compared to $57 billion in 1988. Farmers sold off inventories of prior-year crops in 1988 to maintain cash incomes. Rebuilding of inventories in 1989 may reduce cash income compared to 1988, even though net farm income should rise.

At present, it appears as if the financial position of farmers in 1989 will be favorable. Land and other asset values could rise modestly in 1989. Farm debt may also expand very slightly in 1989.

With more land going back into production in 1989, business activity in rural and nonfarm agriculturally dependent businesses is likely to expand. This will further boost economic recovery in the nonfarm sectors of the agricultural economy which were depressed along with the farm sector earlier in the decade. However, the farm financial crisis of the 1980's coupled with the 1988 drought and other adversities have had the effect of forcing rural areas to realize that economic security lies in diversification.

Many rural communities are now looking for ways to rebuild their economies and become less dependent on agriculture as their predominant economic base. Local leadership and initiative is the key to this effort. Without these ingredients most efforts will not be successful.

The Department will continue to play a role in assisting small communities and rural areas, even though budget constraints have forced reductions in the programs which provide financial assistance to such areas. Continuing this commitment will be crucial as rural areas develop new approaches to deal with the economic realities facing them.

## TRADE NEGOTIATIONS AND AGRICULTURAL REFORM

While the United States has made significant progress in recent years in moving towards more market oriented agricultural policies, too many of our farmers remain overly dependent on government programs for a significant portion of their income. This dependence can be broken by securing greater access to overseas markets and thus expanding our level of agricultural exports. For this reason, we remain fully committed to achieving a successful outcome to the Uruguay Round of multilateral trade negotiations.

World agriculture continues to be plagued by misguided government policies which create incentives for uneconomic production and distort trade among countries. It is important that these trade distorting practices be eliminated and that a level playing field be established for American farmers and exporters. The current negotiations offer an unprecedented opportunity for achieving these much needed reforms.

We should not, however, underestimate the difficulties of achieving consensus among the negotiating parties. This was demonstrated by our experience at the Mid-Term Review of the Uruguay Round negotiations last December in Montreal. Despite the extraordinary amount of Ministerial level attention devoted to agriculture in Montreal, we were unable to come to an agreement with our trading partners on the long-term objectives for the negotiations. Nevertheless, significant progress has been made, and many other countries now subscribe to our position. We will continue to work hard to generate international support for our goal, knowing an agreement is possible if we focus our attention on the long-term benefits of a more open, flexible, and equitable system of international trade.

While the Uruguay Round negotiations will be the primary focus of our attention, we also seek to resolve pressing bilateral trade policy problems. At the top of our agenda at present is resolution of the dispute caused by the implementation by the European Community of a ban on imports of beef from cattle treated with growth hormones. This and other such disputes with our trading partners can have an immediate effect on U.S. producers and exporters. We must address such issues as they arise even as we work for long-term, fundamental reform which will put agricultural trade on a more equitable basis and eliminate the underlying causes of many of these bilateral disputes.

Finally, we must recognize that the opportunities for future benefits from agricultural policy and trade reform cannot be fully realized without world economic conditions conducive to expansion of demand for farm products. We will need economic conditions in the U.S. which help keep our agricultural products price competitive. Clearly macroeconomic policy, including how we manage the budget deficit, will be vital to the long-term future economic prosperity and financial stability of U.S. agriculture.

With this background on the general state of agriculture, I would now like to discuss the fiscal year 1990 budget proposals for the Department of Agriculture.

## BUDGET PROPOSALS FOR FISCAL YEAR 1990

On February 9, President Bush presented his budget proposals to the Congress. The details of his proposals are discussed in the document entitled "Building a Better America." In many of the areas outlined for special emphasis, the Department of Agriculture has programs that contribute to the President's goal of building a better America. Spending for programs in these areas is increased above current levels. The special areas as related to the Department include:

- Strengthening Federal science and technology policy
- Increasing investment in basic research
- Expanding our knowledge base
- Investing in education
- Promoting international competitiveness
- Expanding economic opportunities
- Protecting the environment
- Protecting social insurance

The President's budget document also indicates that in order to restore the balance between Government spending and revenues it will be necessary to restrain the rapid growth in certain entitlements and other mandatory programs and to reduce spending below current levels in other programs. Farm price and income support programs, as well as Farmers Home Administration programs and those of the Rural Electrification Administration, would fall into the category of programs where outlay reductions are needed.

The President has indicated that trimming the growth of entitlements is necessary, but that alone is not sufficient to achieve the budget deficit goals. Further restraint in Government spending will be required. These restraints can be imposed by applying a spending freeze to the vast array of discretionary programs that have not been singled out for one of the Presidential initiatives. A large number of the Department's programs are discretionary and, thus, would be covered by the freeze concept. The freeze is flexible in that it allows for some individual programs to be increased while other programs are reduced. In the aggregate, spending levels for these programs would not exceed current levels. The Administration has decided not to lay out a recommended plan for applying the flexible freeze. President Bush wants to negotiate with Congress on where program reductions would be made. President Reagan's budget could serve as a possible starting point for these negotiations.

For programs not covered by the flexible freeze, the following are the specific proposals the Administration recommends for the Department of Agriculture for fiscal year 1990.

## FARM PRICE AND INCOME SUPPORT PROGRAMS

Even though outlays for the farm price and income support programs have declined by over $10 billion from the record high level of $26 million in fiscal year 1986, largely due to the success of the Food Security Act of 1985, spending on these programs still remains at historically high levels. With the Government facing a high budget deficit problem, savings will be needed in the programs carried out by the Commodity Credit Corporation. I have been charged by the President to work with Congress in developing a specific set of initiatives designed to reduce farm price and income support expenditures by $1.9 billion in fiscal year 1990. Of this total, $1.1 billion would be achieved through legislative changes and about $800 million would be obtained by using discretionary authority to shift deficiency payments from fiscal year 1990 to fiscal year 1989.

American farmers will prosper only to the degree they are competitive in world markets. Policy changes that reduce Federal outlays either by raising minimum prices or by reducing crop production will not improve export expansion. Of the limited number of actions which could be taken to reduce outlays and still maintain the commitment to a more market-oriented agriculture, the most direct would be either to reduce target prices or reduce the portion of the farm program acreage which is eligible for deficiency payments. These and other options will be considered in trying to develop a program that is fair to our agricultural producers and sensible in terms of our budget constraints.

## WATER QUALITY

The Department is the lead agency in a coordinated Federal effort to enhance water quality, a program identified as a key Presidential initiative. This initiative would address the problems of ground and surface water pollution from the use of pesticides and fertilizers. The Administration is committed to protecting the Nation's water resources from contamination from chemicals used in farming without jeopardizing the economic vitality of U.S. agriculture. The interagency initiative proposals reflect the immediate need to address these problems through education and technical assistance and the longer term need to carry out research on the mechanisms of contamination with a view towards developing more sophisticated control strategies.

To support the Department's role, funding for technical assistance activities carried out by the Soil Conservation Service (SCS) for water quality would double to $27 million and financial cost-share assistance provided by the Agricultural Stabilization and Conservation Service (ASCS) would total $21 million. A coordinated research program would be carried out at Federal labs and at universities. Research will focus on systems approaches to problems to assure consideration of economic, environmental and social consequences of improved production practices.

Total funding in fiscal year 1990 is estimated at $181 million, an increase of $41 million.

## AGRICULTURAL CREDIT PROGRAMS

Consistent with past policy, the budget provides for limitations of $3.0 billion in guaranteed loans and $700 million in direct loans for Farmers Home Administration (FmHA) farm lending. The emphasis on guaranteed lending would assist borrowers in graduating to commercial credit and should be encouraged with the implementation of secondary market operations authorized by the Agricultural Credit Act of 1987.

For FmHA's community programs, the budget would provide $200 million in direct loans, and $100 million in guarantee loans for water and waste treatment and other essential facilities, and $96 million in guaranteed loans for rural businesses. These programs provide vital assistance to communities making a transition to more diversified economies or having serious problems financing health and safety facilities.

The budget also reflects the changing needs for rural housing assistance, which is no longer one of the availability of adequate units, but one of affordability and choice. Except for $100 million in rental construction loans directed toward areas experiencing rental housing shortages, FmHA's existing direct loan programs would be replaced by a housing voucher system, requiring $360 million in funding for 20,000 units. Vouchers are far less costly than direct loan programs. They give recipients the opportunity to choose from available housing and to take the assistance with them if they must move to find better job opportunities or for other reasons. The system would be patterned after the one operated successfully by the Department of Housing and Urban Development (HUD).

The budget also proposes to replace direct loans with loan guarantees under the Rural Electrification Administration (REA) This shift would not impair REA borrowers' ability to continue to provide rural electric and telephone services. The majority of the borrowers can now qualify for private credit. A partial guarantee by the Government would ensure the availability of credit. The additional interest borrowers would have to pay would add only a few cents per month to the typical consumer's monthly bill.

## FOOD ASSISTANCE PROGRAMS

The President has made a commitment to the full funding of means-tested entitlement programs, including the Food Stamp Program and Child Nutrition Programs. Thus, it is expected that the fiscal year 1990 budget for the domestic food assistance programs will increase by $1 billion over the fiscal year 1989 current estimate and by $1 billion over the Reagan budget request. The food assistance programs primarily help low-income persons, including the homeless, so funding needs are affected by changes in unemployment, poverty and food prices. In general, these economic indicators are projected to continue to be favorable for fiscal year 1990, so overall participation in the food programs is expected to remain stable.

The President's budget would restore proposed reductions achieved by eliminating subsidies for meals served to children over 185 percent of poverty in the Child Nutrition Programs.

We firmly believe that we can improve food assistance program operations, maintain the national consensus to help the needy, and encourage good nutrition, as well as the consumption of American agricultural products. Strengthening the State-Federal partnership that delivers these programs and better coordination between public and private efforts will make the most difference in how successfully we can reach out to those in need. We will continue to work diligently with Congress and our State and local cooperators to make these programs do the job they are expected to do.

## FLEXIBLE FREEZE PROGRAMS

As I have indicated, most other programs in the Department of Agriculture would be subject to the flexible freeze and negotiation between the Administration and the Congress would determine the budget levels for these programs. However, keeping in mind the President's major budget themes, we would want to give priority consideration to USDA programs that increase our international competitiveness, expand our research and knowledge base, protect the environment and expand economic opportunities and provide nutrition assistance for the disadvantaged. If funding for programs related to these objectives is maintained or expanded, offsets in other program areas of the Department would have to be found.

I would now briefly like to discuss some programs of the Department that deserve priority consideration.

## EXPORT PROGRAMS

Export expansion and long term market development are of key importance to U.S. agriculture. We need to continue to build on our recent progress in restoring American export competitiveness and regaining overseas markets for our agricultural commodities and products. In this regard, we need to make effective use of our Export Enhancement Program (EEP). The EEP has made a significant contribution to our strategy of challenging those competitor countries which use trade distorting subsidies and for securing agreement on agricultural reform during the Uruguay Round negotiations. For fiscal year 1989, Congress imposed a limitation on this program—the value of export bonuses awarded cannot exceed $770 million. We strongly believe that in order to meet our trade objectives that limits on the program should not be imposed in the future.

Our export credit programs are also vital in helping to expand export markets. We would recommend that a level of export credit guarantees be made available which is consistent with the provisions and export emphasis of the Food Security Act of 1985.

Our long-term market development objectives are assisted by a number of other programs which will need to be continued during 1990. These include the Public Law 480 Program which provides valuable commodity assistance and supports economic development within recipient countries, in addition to developing lasting commercial relationships. Countries which have "graduated" from Public Law 480 assistance such as Japan, Korea, Portugal, and Taiwan are evidence of the contribution the program can make in developing strong overseas commercial markets for our agricultural products.

The Foreign Market Development Cooperator and Targeted Export Assistance (TEA) Programs, both administered by the Foreign Agricultural Service, are also key components in our market development efforts. The Cooperator Program has operated for 35 years and remains our primary means for working jointly with nonprofit private trade and producer associations to expand overseas markets. The TEA Program, although only in its fourth year, has demonstrated some early success in export promotion and has offered the opportunity for additional organizations to work cooperatively with FAS in carrying out market development activities.

## SOIL AND WATER CONSERVATION

The water quality initiative was mentioned previously. This initiative will enable us to provide assistance directly to landowners as well as support major regional areas.

Sufficient funds also need to be provided for SCS technical assistance to continue implementation of the conservation compliance, sodbuster, and swampbuster provisions authorized by the Food Security Act of 1985. This is a high priority and will play an important role in achieving the President's environmental goals. SCS has also nearly completed its determinations as to which fields are highly erodible, and we expect to meet the deadlines for conservation planning and installation. At this time, about 65 percent of the conservation planning is complete and about 18 percent of the planned measures have been installed.

Because of the mandated provisions of the Food Security Act for the Conservation Reserve Program (CRP), which require that at least 40 million acres be enrolled in the program by the end of 1990, adequate funding needs to be provided to achieve this goal. It should be noted that eligibility requirements under the CRP were expanded to include filter strips and, beginning with the eighth sign-up, fields that contain wetlands or are subject to scour erosion.

## RESEARCH AND EDUCATION PROGRAMS

Despite the problems of recent years, American agriculture is a vital sector of the economy—thanks in many ways to our past investments in research and extension. But challenges continue to face agriculture from international competitors, consumer and environmental concerns and the potential for dramatic climate shifts resulting from man's activities, among others. At the same time, there has been no other time in history when our opportunities in agriculture have been so great. Advances in our understanding of biology offer the promise of new markets and new solutions to problems not even conceivable only a few years ago. Research is, of course, a long-term undertaking. Projects initiated today will have payoffs five to twenty or more years hence. A decision to underinvest in research today based on a current ability to produce surpluses, would jeopardize the viability of our food and fiber production and processing sector which accounts for nearly one-fifth of U.S. employment.

We have a set of institutions which is somewhat unique to agriculture, that we can mobilize to address the challenges and exploit the opportunities. The strength of this system of land-grant universities and USDA research laboratories is its ability to tap a diversity of disciplinary talent, to leverage nonfederal resources on National issues and to assure rapid transfer of new information to users. We believe the fiscal year 1990 budget should tap the strength of this system.

It is important that research and education programs focus on national priorities. Programs which enhance our understanding of fundamental plant and animal sciences and address specific national priorities must take precedence over earmarked programs of local interest, especially in times of constrained resources. A strong competitive grants program can effectively target scarce resources to scientifically meritorious projects which will provide the basis for development of solutions to agricultural problems. Areas of basic science which merit increased funding include effects of climate change on crops and forest growth, interdisciplinary plant science research, animal health and biotechnology.

Current national issues facing agriculture must also be addressed. I have already mentioned the need for additional research and technical assistance in the area of water quality. Many unanswered questions remain which limit our understanding of the fate and transport of agricultural chemicals and the impact of various management systems on the movement of those chemicals. Those questions must be addressed, and we need to inform producers of management strategies which they can implement to assure an environmentally sound, profitable agriculture.

Food safety remains a significant concern and attention needs to be focused on addressing the problem of bacterial and chemical contamination. Regulatory agencies need the tools necessary to detect unacceptable levels of bacterial, drug or pesticide residues in food products. Important programs in extension and information transfer must be funded to assure rapid transfer of research to those who can implement the results and thereby enhance the quality of our food supply.

Development of human resources for employment in agriculture and natural resource sciences requires our attention. Reports indicate that enrollment in agriculture programs at the Nation's universities is continuing to decline, especially among minorities. At the same time, a number of our scientists are reaching retirement age. Competitive programs can serve as an excellent means to attract bright young students to agriculture and to encourage institutions to upgrade agriculture teaching programs. The historically black land-grant schools—the 1890 institutions—can perform a meaningful role given adequate resources to recruit, train and graduate students in agriculture and natural resources. The Department endorses proposals recommended by a USDA–1890's Task Force to enhance ongoing program and facility improvement efforts at these schools and to enable them to participate more effectively in National interest research, teaching and extension programs. Support for these efforts should be given high priority.

Biotechnology is another priority area for the research budget. One of the most exciting areas in agriculture is the development of advanced techniques to understand and utilize biological systems better in order to produce more efficiently, reduce losses due to diseases and pests, and develop new products. There is broad support within the science community for a strong program of competitive grants which will target additional resources on solving problems and developing opportunities in the plant sciences, animal health and human nutrition. The long-term benefits of this program merit increased funding levels.

One other item which deserves special consideration is the state of our physical facilities for conducting research. Many of our facilities are simply not suitable to support advanced research which frequently requires precisely controlled environments and specialized equipment. We will continue to review our needs in this area and will be working with the Congress to assure that appropriate facilities are available. Facility funding should be targeted to improvements clearly related to high priority national research needs.

Not only is our research in basic agricultural sciences important, but the maintenance of competent programs for the collection of agricultural statistics and economic research and analysis is also essential for an efficient and competitive agricultural sector. The investment and marketing decisions of our producers and agricultural businesses need to be based on reliable economic information and intelligence. The Department's economic and statistics programs also help provide the foundation for well informed decision-making in making public policy. Economic research is an important and necessary component of our plans to address pressing national needs in areas such as water quality and the environment, as well as more traditional economic policy concerns in areas such as agricultural trade, finance, and farm income support.

## MARKETING AND INSPECTION

For the marketing and inspection programs, many of the activities provide direct benefits to the private sector and are funded through user fees. This source of funding can be expanded, although appropriations will still be needed. I began my career at USDA in 1970 as Administrator of the Consumer and Marketing Service. These programs will continue to get my full attention.

The Food Safety and Inspection Service needs to continue the modernization of its inspection systems and procedures. It is extremely important that sound and efficient systems be designed to protect the health and safety of meat and poultry products. We simply cannot rely on visual inspections alone. New research approaches must be adopted. Funding will be needed to expand the use of rapid tests for detection of chemical and antibiotic residues in meat and poultry products, to continue to move toward risk based inspection procedures, and to train inspectors in new scientific inspection procedures. Additional slaughter inspectors will meet the increased demand resulting from plant expansions.

The Animal and Plant Health Inspection Programs are needed to control and eradicate pest and disease outbreaks that threaten U.S. agricultural production. The Department is working on controlling the re-emergence of citrus canker and the potential damage from the Russian wheat aphid, as well as other infestations that may arise in the future.

The Agricultural Quarantine Inspection Program serves as the major defense against the introduction of foreign plant pests and animal diseases. User fees for international air and sea travelers could cover the cost of this program and would be consistent with the practices of the U.S. Customs Service and the Immigration and Naturalization Service.

Some of the other APHIS programs may need special emphasis, such as the Animal Welfare Program, the Animal Damage Control Program, Animal Disease Detection, Medfly and Biological pest control programs. The Department would also like to construct a new Germ-Plasm Quarantine Laboratory and upgrade the Denver Wildlife Research Center.

The Federal Grain Inspection Service will continue work begun in 1988 to implement the Grain Quality Improvement Act. This Act prohibits the recombination or addition of foreign material to grain as well as the reintroduction of dust to grain.

## CROP INSURANCE

Congressional concerns regarding the adequacy of crop insurance protection for farmers and the need for supplemental disaster payments for losses due to the 1988 drought led to enactment of legislation last year establishing a Commission of producers and insurers to review and make recommendations for improving the insurance program. An interim report of the Commission is due April 1, 1989, and the final report is due July 1, 1989.

Recommendations of the Commission and findings of other program reviews will serve as essential bases for formulating future budget and legislative proposals for the program.

### FARM PROGRAM ADMINISTRATION

A supplemental appropriation for fiscal year 1988 was enacted by Congress to administer disaster assistance to farmers and ranchers. Current information on the number of producers eligible for assistance indicates that additional funding will be needed for administering disaster assistance during the remainder of 1989. Authority is needed during fiscal year 1989 for the Agricultural Stabilization and Conservation Service to transfer from the Commodity Credit Corporation such additional funds as may be needed to administer the disaster assistance programs.

In closing, I would like to reiterate that it is my intention, and the Administration's intention, to work closely and cooperatively with Congress to address the very real budgetary problems we face. The future economic well-being of American farmers will be determined by our ability to reduce the deficit and ensure continued economic health for the Nation. I believe strongly that we can work together in solving these problems, and by doing so, we can build a better America.

That concludes my statement, Mr. Chairman. I would be pleased to answer any questions you and the other members of the Committee may have.

---

## Biographical Sketch

### Clayton Yeutter

Clayton Yeutter was sworn in as the 23rd United States Secretary of Agriculture Feb. 8, 1989.

Yeutter's career includes distinguished public and private-sector service in agricultural policy development, law, economics, marketing and trade.

From July 1985 until shortly before his new cabinet appointment, Yeutter served as U.S. Trade representative. His previous USDA posts include assistant secretary for international affairs and commodity programs from March 1974 to June 1975, assistant secretary for marketing and consumer services from January 1973 to March 1974, and administrator of the consumer and marketing service from October 1970 to December 1971.

Yeutter's other career highlights: president and chief executive officer, Chicago Mercantile Exchange, July 1978 to June 1985; senior partner, law firm of Nelson, Harding, Yeutter & Leonard, Lincoln, Neb., April 1977 to June 1978; deputy U.S. Special Trade Representative, June 1975 to February 1977; director, University of Nebraska Mission in Colombia (a large agricultural technical assistance program), September 1968 to October 1970; executive assistant to the governor of Nebraska, January 1966 to September 1968; faculty member, Department of Agricultural Economics, University of Nebraska, January 1960 to January 1966; operator of a 2,500 acre farming-ranching-cattle feeding enterprise in central Nebraska, 1957–1975; and enlistee, later commissioned officer, U.S. Air Force, 1952–1957.

Yeutter was graduated with high distinction from the University of Nebraska in 1952 with a bachelor's of science degree in animal husbandry. In 1963, he obtained his law degree from the same university, graduating *cum laude* and ranked first in his class. In 1966, he received his Ph.D. in agricultural economics, again from the University of Nebraska, and was named outstanding graduate student in the program.

Yeutter is a former member or chairman of many private and public-sector boards of directors, councils and trusteeships, including: the President's Export Council; the board of directors of the Chicago Association of Commerce and Industry; the board of directors of the Chicago-Tokyo Bank; the executive committee of the U.S. Meat Export Federation; the board of directors of the Chicago Council on Foreign Relations; the executive committee of the Farm Foundation, Oak Brook, ILl.; the board of directors of Tri-Valley Growers, San Francisco, Calif.; and the board of directors of ConAgra, Inc., Omaha, Neb.

Yeutter was born in Eustis, Neb., Dec. 10, 1931. He and his wife, Jeanne Vierk Yeutter, have four children. He retains ownership of his Nebraska farm, which is currently operated by a tenant. Yeutter's permanent home is in Lincoln, Neb., but he currently resides in McLean, Va.

### INTRODUCTION OF SENATOR KERREY

Senator **Bumpers**. Before I proceed with the questioning, let me redress a slight omission. I want to take this opportunity to welcome one of your own fellow Nebraskans, Senator Kerrey, to this committee.

Senator Kerrey was Governor of Nebraska for 4 years. We ex-Governors know that there are just a few of us born to rule. [Laughter.]

We are most happy to have you, Bob.

Are there any other new members on this committee?

Well, I am told that Senator Fowler of Georgia and Senator Adams of Washington are also new members, and they will be here soon, so I will just say to you, Senator Kerrey, we are most pleased to have you with us.

On a parochial matter of great import in my State at this moment, which I talked to you on the phone about a few days ago, is the ice and snow storm disaster that hit the poultry industry.

### POULTRY DISASTER

The Governor of my State, yesterday asked for a disaster declaration from the Department. It now seems that there are 700 poultry houses caved in in Arkansas, Missouri, and Oklahoma. I would hate to put a price tag on it, but I would say that it will be in excess of $50 million.

A lot of that loss will be borne by the poultry companies who own the birds in those houses. But it seems to me that the Farmers Home Administration is the proper place for a grower to pursue physical and economic disaster relief. I first thought, as chairman of the Small Business Committee, that I wanted SBA to take this over, but it seems that you do have the right programs, because you can also make loans for both physical damage and anticipated operating losses.

And so, again, I just want to get your assurance that you will have the Farmers Home Administration on the ground in Arkansas, Missouri, and Oklahoma and dealing with what is really a major crisis, as you know.

My State is far and away the largest poultry producer in the United States. It is a big industry, and there is a big shortage of poultry in this country. These poultry processors are fighting for growers, because the demand for poultry is much in excess of the supply.

We do feel very strongly about the crisis, and we need your help immediately.

Mr. **Yeutter**. We will certainly evaluate the situation, Senator Bumpers. Obviously, we will have to do so under the constraints of the law, whatever they may be, in determining the eligibility of those folks for assistance. I cannot draw any conclusions on that point at this stage. But we will certainly try to evaluate the situation in a timely way.

## APPROPRIATE TECHNOLOGY TRANSFER FOR RURAL AREAS

Senator **Bumpers**. On another item, we have a group of about 16 people in a center called the Appropriate Technology Transfer for Rural Areas. You may not be familiar with it, but we established this a couple of years ago, and it is an information and research center within USDA which is providing information on low-input farming.

I think that when you consider, in light of the problems that we have with herbicides and pesticides, that this is an extremely valuable center. They were located in Memphis, and they wanted to move to Fayetteville, AR, where the University of Arkansas was located, because they had access to an agricultural library and because the university is a land grant university very interested in low-input agriculture.

They made that move, and quite frankly now they are being harassed by the Extension Service—one of my favorite organizations, but I do not want them harassed.

Sixteen jobs in Arkansas will get this Senator's attention, but I will put this in more detail in a written question to you, Mr. Secretary, and I certainly hope we won't have any problems.

## EXPORTS

On the matter of exports, what were our total exports in value in dollars in 1988, and what do you anticipate in 1989?

Mr. **Yeutter**. If I can remember correctly, Senator Bumpers, they were a little bit over $35 billion in 1988, and we expect about $38 billion in 1989.

Senator **Bumpers**. Why do you think you will have that kind of an increase for 1989? Is that because of Soviet demand, or what?

Mr. **Yeutter**. Certainly a substantial part of that growth is in the Soviet Union. We can give you complete numbers on all of the purchases, but as you know, a lot of those sales have already been made, so there is a high level of confidence that those numbers will actually increase.

Senator **Bumpers**. You anticipate $38 billion, as opposed to $34 billion last year?

Mr. **Yeutter**. About $35 billion.

Senator **Bumpers**. What was the total value of American agriculture last year?

Mr. **Yeutter**. I am not sure.

Senator **Bumpers**. Well, we export roughly one-third of what we produce, do we not?

Mr. **Yeutter**. In some crops and perhaps on a total volume basis, but for the agricultural economy as a whole in dollar value, it would not be that great.

Senator **Bumpers**. Do you know what the total value of the commodities are that we do export—in other words, what percentage of the total crops of the crops that we do export does that $35 billion represent?

Mr. **Yeutter**. Well, if it is about one-third, then we probably have a little over $100 billion in production in those particular crops. And the total value of agricultural production may be around $150 billion in rough numbers

Senator **Bumpers**. Are you using my figure now?

Mr. **Yeutter**. That is about right, because we used to be up a little higher than that. But those numbers have dropped down, so one-third is probably a good round number for the physical volume. The position on a dollar-value basis is lower.

### SOYBEAN PRODUCTION IN BRAZIL

Senator **Bumpers**. I am going to go to Brazil in the latter part of this month to see the tropical rain forest and talk to the officials down there about what possibilities there are that we could cut a deal with them to quit cutting that forest. It is called the lungs of the planet, and I know that if we visit with President Sauney, he is going to say, No. 1, this is all fine for you. You have already cut your forest, and you have all the arable land you need.

We are growing soybeans on this land that we are clearing, and you are simply trying to cut us off in the international markets. That is the first thing that he is going to say—who are you to tell us what to do?

No. 2, he is going to say, well, why don't you go back and start conserving fossil fuels in your own country? That is the biggest contributor to the problem. You have got 183 million automobiles, and 40 percent of the problem is coming out of the exhaust pipes of those cars. Don't come down here and lecture us.

How many acres of the rain forest are the Brazilians cutting a year, and how much are they expanding production in soybeans?

Mr. **Yeutter**. I will have to give you exact numbers for the record, Senator Bumpers, but it is very substantial, as you know.

I have been in and out of Brazil a number of times, and there is no doubt that the cutting is a very significant element of what is occurring there.

But you are absolutely correct in your impressions of the response that you will hear.

[The information follows:]

### Annual Deforestation of Brazilian Rainforest

The deforestation of the Brazilian rainforest apparently is occurring at a substantial rate. According to a recent State Department cable (Brasilia 0578; March 7, 1989) the percentage of forest cover disturbed is estimated at: 1975—0.58%, 1978—1.57%, 1983—2.41%, 1988—8.00%. The area base for these estimates was not specified. However, the Institute of Amazon Research reportedly estimates that roughly 8 million hectares of virgin forest were cleared in 1988.

### BRAZILIAN SOYBEAN PRODUCTION

| Year | Area (1,000 hectares) | Production (1,000 tons) |
|---|---|---|
| 1969 | 906 | 1,057 |
| 1974 | 5,143 | 7,876 |
| 1979 | 8,256 | 10,240 |
| 1984 | 9,421 | 15,541 |
| 1989 | 11,800 | 21,000 |
| AVERAGE ANNUAL INCREASE | | |
| 1969–74 | 847 | 1,364 |
| 1974–79 | 623 | 473 |
| 1979–84 | 233 | 1,060 |

BRAZILIAN SOYBEAN PRODUCTION—Continued

| Year | Area (1,000 hectares) | Production (1,000 tons) |
|---|---|---|
| 1984–89 | 476 | 1,092 |

Senator **Bumpers**. I know. He has already given Tim Wirth that Dutch Uncle treatment, and I am rather expecting the same thing.

Mr. **Yeutter**. We have had lots of trade debates with our Brazilian friends during my tenure as U.S. Trade Representative.

If I may philosophize a bit on the soybean situation, one of the reasons that we have seen such an expansion in soybean production in Brazil is because of our own embargo of soybeans back in the 1970's. That simply generated a great interest on the part of our buyers in diversifying their source of supply, and a lot of foreign investment went into Brazil to generate that production.

So, one of the reasons that we are seeing that forest being cleared and soybeans being produced is because of the American embargo that stimulated that action.

Senator **Bumpers**. I remember it well.

### FOOD STAMPS

Mr. Secretary, on another matter, what is the Bush budget for food stamps, specifically, in 1990? And how does that compare with 1989?

Mr. **Yeutter**. Those numbers have been going up consistently through the years. As you may remember, I was in charge of those programs way back about 12 or 13 years ago. The numbers are now far beyond what they were then.

But I will ask Mr. Dewhurst to give you the exact figures.

Mr. **Dewhurst**. The request is $13,263,000,000 in 1990, and that is an increase of about $573 million over the 1989 level.

It assumes a food price inflation of about 4.5 percent and implementation of the antihunger legislation, so that the maximum benefit in the program for a family of four grows from $290 in 1988 to $300 in 1989, and $315 in 1990.

Senator **Bumpers**. It does not anticipate anything for increased numbers of people becoming eligible?

Mr. **Dewhurst**. No; because the administration's unemployment estimate remains about the same, and so participation is estimated at about the same level.

Senator **Bumpers**. Staff has just handed me a statement here, and let me just read it to you and ask for your comment.

The budget assumes reduction of $101 million in the Food Stamp Program based on collections from States for their computational and clerical errors in providing benefits to food stamp recipients—that is where we penalize States that don't come within a certain error margin.

Recognizing past difficulties in recouping penalties from State error liabilities, do you think this is a realistic estimate?

Mr. **Yeutter**. I would like to refer that one, since all of that precedes me.

Senator **Bumpers**. Mr. Dewhurst?

Mr. **Dewhurst**. Well, it is just very hard to say, Senator. The collections have been very slow.

States have due process rights to hearings when we make those claims, and we have collected very little of that money, but the budget continues to assume that we will collect a fairly large amount in 1990. It just remains to be seen if that will turn out to be the fact.

### LOAN MARKETING AGREEMENTS

Senator **Bumpers**. Mr. Secretary, what is your personal feeling about the marketing loan program?

Mr. **Yeutter**. I have mixed reactions to those programs, Senator Bumpers.

The concept of the marketing loan is sound, because in essence, it says that we ought to regain market share internationally.

We made a mistake in foregoing that market share in the early 1980's. Once market share is lost internationally, it is very difficult to regain. It is better not to lose it in the first place.

We are now in the process of trying to regain it, and as I indicated earlier, we are doing rather well. But it has been a difficult and painful process, because a lot of this we have done through export enhancement programs or through the benefits of the marketing loan.

In many respects, the marketing loan programs have achieved that objective, although at very high cost. Whether we could have done it in another way at very high cost is something about which we could have debates, but that is rather moot at this point.

The question is where we ought to go at this point, and I might digress for just a moment to say that we have had more trouble with the cotton marketing program than we have had with the program in rice.

The cotton program has experienced some difficulties that are peculiar to cotton, and as a consequence, inventory levels of cotton have now once again begun to rise. They are going to cause this committee and the other committees difficulty, unless we find a way to correct or alter that program in such a way as to make it do the job that was originally intended.

The rice program, although it has been costly, has worked much more smoothly. As to whether we would extend this program into other crops, that is a much more difficult problem, particularly because of the costs that are involved.

In other words, if we were to regain market share in other ways, at less cost, we probably ought to do that. If marketing loans are the only way we can get there, in terms of generating additional market share internationally, then we ought to consider them.

At this stage, it seems to me, Mr. Chairman, that it would be prudent for us to carry through the Uruguay round negotiations for the final 20 months, and defer any decision on additional marketing loan programs until after that conclusion is reached.

## GROUND WATER

Senator **Bumpers**. I hope that I hear you say that for now the marketing loan will be left alone, and I agree with you totally about that.

Let me shift to two final questions.

One is this question of ground water, and of course, you Nebraskans have the Ogallala Aquifer out there. I am just curious as to the status of that aquifer? How is it holding up?

Mr. **Yeutter**. It is doing very well. Nebraska is an area that I know quite well, because I did my Ph.D. dissertation in water law and water administration.

The aquifer is declining a bit in a few spots. There are some places in Nebraska, as Senator Kerrey knows, where ground water levels are declining, but by and large, Nebraska has the great good fortune of having an enormous aquifer under the Sand Hills, which is gradually moving to the south and to the east, replenishing ground water supplies, and it is likely to do so for centuries to come.

As we move further south, the aquifer gets into more difficulty. In western Kansas and down into the Texas Panhandle, we have been experiencing significant declines in ground water levels for a period of years, and that is likely to go until the ground water is exhausted.

Senator **Bumpers**. Well, we already see an elimination of cotton farming in the Lubbock area because of lack of water.

Mr. **Yeutter**. There is no solution to that, other than to bring in a supply from other geographical areas—either out of the mountains in some manner, or from one of the rivers to the east. It is very costly.

## CLEAN WATER VERSUS HIGH YIELD CHEMICALS

Senator **Bumpers**. Mr. Secretary, it seems to me that one of the most fundamental and difficult problems facing agriculture in this Nation is the environmentalists' concern—legitimate concern—about herbicides and pesticides, and what they are doing and will do to underground water supplies.

The necessity for maintaining the kinds of yields that we have become used to, not just to feed ourselves, but to also have a big export program, of course, is important. Are we seriously working feverishly for substitutes, genetically improved plants or genetically resistant plants, and all that sort of thing? We have got a great research program down at the University of Arkansas on this, as has Iowa State and Kansas State and so on.

Are we anywhere like to the point where we need to be on substitutes so that we don't have to accept reduced yields that will result from the elimination of herbicides and pesticides. I would like to hear you comment on that.

Mr. **Yeutter**. I would like to comment on it, Senator Bumpers, because, in my judgment, it is one of the most relevant questions that we could have at this hearing.

I have heard concerns expressed by a great many Senators, particularly members of the Agriculture Committee, as I approached my confirmation hearings a few weeks ago. But I have heard it from other sources as well, including farmers. They have come in and talked to me about this issue since I have been here.

Some of these have been long-time friends of mine, from the Midwest. This is clearly an issue that is on everyone's mind today, and it is one that all of us have to confront with vigor.

You used the word feverish, and that may well be the right word at the moment. You asked whether the U.S. Department of Agriculture is working feverishly. Without fully knowing the answer, since I've only been around a few weeks, I would hypothesize that we are not working as feverishly as we need to in this area.

However, to be fair to all the folks around the country, at the University of Arkansas and elsewhere, who are working, I suspect there is more happening in that area than most of us realize.

Now, the question is whether enough is happening, and in particular, whether enough is happening out on farms, in terms of generating practical responses to this challenge.

Although there are efforts underway, including one to which you alluded a few moments ago, we probably need a whole lot more effort in this regard. I suspect, Senator Bumpers, that we are playing catchup in this area.

We are going to have to run fast in responding to this question. We need to find ways to balance the competing interests, and to do so in a timely way. It is not going to be easy. We probably need an acceleration in effort in this area from what now transpires.

Senator BUMPERS. Mr. Secretary, I have taken up time.

I have a few more questions that I will submit for the record.

Senator McClure.

Senator MCCLURE. Thank you very much, Mr. Chairman.

First, I would ask unanimous consent that a statement of mine appear in the record at this point.

Senator BUMPERS. Without objection.

[The statement follows:]

### STATEMENT SENATOR MCCLURE

Thank you Mr. Chairman, I am glad to be here today to listen to the administration's budget proposal for the fiscal year 1990. I am glad to welcome the new Secretary, Mr. Yeutter before the subcommittee and commend him for making such a complete statement on the state of agriculture and rural America today. I must agree with much of what he has stated in his opening remarks about the recovery in rural America but must also caution him that not all sectors of the country are experiencing this recovery. There are sections of rural Idaho which have yet to see the recovery which other parts of the State and the Nation have seen.

I do however agree with the Secretary in that we do have a problem facing us today—that being a very large Federal deficit. I agree with the President that it is a number one priority to reduce this deficit. I have been on this subcommittee many years now and I know how difficult the decisions are which must be made in an effort to decrease spending for programs which will benefit agriculture and rural America. It is very hard to say no to all constituents who have good proposals and definite research needs.

I know that the Secretary has good intentions in stating that he wants to work with Congress in an effort to make the flexible freeze work in an effort to reduce the Federal deficit. I also know how difficult this will be.

I am encouraged to know from your statement that you will continue efforts to dismantle international trade barriers through GATT negotiations. I believe that you will not trade away U.S. export protection programs such as EEP, TEA, P.L. 480 and other export programs unless concessions are made by our trading partners. I fully support continuation of these programs as long as our trading partners use market distorting export programs instead of free trade.

I am concerned over the effect of the proposed cut in farm price and income support programs proposed by this budget. Reductions of $1.9 billion in this area will be very difficult to attain. Reduction in target prices or reduction in the portion of acreage eligible for deficiency payments may lead to a large drop in farm income, which will have ripple effects on rural communities, especially rural banks and the farm lending institutions.

Water quality programs funded under this budget proposal are encouraging but I am concerned that USDA's efforts adequately safeguard the ability of farmers to continue to farm. I hope that the USDA truly is on the side of the farmers in the data gathering, research and extension aspects of this interagency cooperative effort. Ground water issues are very important in Idaho and I stand ready to assist in any way possible to move this effort forward but I am concerned that common sense be used in dealing with this issue.

On the issue of providing credit for farmers through Farmers Home Administration I have some concerns. Of greatest concern to me is how to involve the banks in the Pacific Northwest in the Guaranteed Loan Program. Congress and the previous administration have attempted to remove the Federal Government from the role of primary credit providers to FmHA borrowers by decreasing the amount of direct operation and ownership funds and increasing the amount of guaranteed operating and ownership funds. In some States the banks have responded by using the Guaranteed Loan Program to maximum benefit of both the bank and the borrower. Unfortunately, this is not the case in Idaho. Idaho and other regional banks in the Pacific Northwest have not responded to the Guaranteed Loan Program. They state that they do not have the time to deal with the paperwork involved and that they do not want to become involved with what they consider marginal borrowers. What can you do as Secretary of Agriculture to encourage the bank in this region to make greater use of the Guaranteed Loan Program?

Absent an increase in use of the Guaranteed Loan Program would you support a shifting of guaranteed operating loan funds to direct loan funds to meet the needs of farmers who do not have a bank which will make a guaranteed loan? Will you support the transfer of funds from guaranteed to direct if the amount in the direct operating loan fund is depleted?

Recently I wrote to you requesting the transfer of third and fourth quarter direct operating funds into the second quarter to help alleviate a current shortage of direct operating funds. What will be your decision on this request?

I am very interested in agriculture research, both through the Agricultural Research Service and the Cooperative Research Service. I have and do support the emphasis on basic research but I am concerned that a vacuum is developing as the ARS phases out of applied research. I see problems developing, especially in the areas of minor use pesticides. For instance, EPA last year issued an emergency suspension of the chemical dinoseb which was used to control weeds in peas and lentils in northern Idaho. No other chemical is registered for use on peas and lentils. Research was needed on a chemical to take the place of dinoseb, but ARS researchers who were doing applied research on the replacement chemical were told late last year to stop working on this chemical as it was applied research. I totally disagree with this approach when a replacement chemical is necessary to save a specific industry. What is your position on the use of ARS researchers on applied research? Will you encourage Federal researchers to continue to meet the needs of individual industries who have specific research needs?

For the past 2 years, I have placed report language in the Senate and conference reports directing the USDA to use emergency conservation program funds to aid farmers in drought stricken areas to extend wells and provide for temporary irrigation systems in areas where irrigation is a normal practice. The USDA has ignored this language. It is critical to farmers in Idaho that they receive this assistance and it will save the Federal Government drought disaster assistance payments well in excess of the cost of the ECP funds as the farmer will avoid drought losses. The amount of funding in the ECP Program is capped by Congress each year, and I do not expect to request a transfer of funds beyond the amount in the bill, thus expenses would be limited to the amount in the appropriations bill. What will be your policy on following the Senate and conference report language on this and other issues?

I want to thank you for appearing before the subcommittee today. I look forward to working with you in the coming months as we work together toward a reasonable budget for agriculture and rural programs.

Thank you Mr. Chairman.

### CONCERN FOR FARMERS

Senator **McClure**. I want to follow up on a couple of the latter points that you made, Mr. Chairman.

Water quality programs funded under this proposal are encouraging, but I am concerned that USDA's efforts adequately safeguard the abilities of farmers to continue to farm. I hope that the USDA truly is on the side of farmers, in the data gathering, research, and extension aspects of the interagency cooperative effort.

Ground water issues are very important to Idaho, and I stand ready to assist in any way that I can to move this effort forward. But I am concerned that common sense be used in dealing with the issue. Sometimes common sense is not very noticeable in the efforts that we do focus on problems.

As a part of that, but not totally as a result of that concern, I am very interested in agricultural research, both through the Agricultural Research Service and the Cooperative Research Service.

### MINOR USE PESTICIDE RESEARCH

I have and do support the emphasis on basic research, but I am concerned that a vacuum is developing as the ARS phases out applied research. I see problems developing especially in the areas of minor use pesticides.

For example, EPA last year issued an emergency suspension of the chemical dinoseb, which was used to control weeds in peas and lentils in northern Idaho. No other chemical was registered for use on peas and lentils. Research was needed for a chemical to take the place of dinoseb, but ARS researchers, who are doing applied research on the replacement chemical, were told late last year to stop working on this chemical, because it was applied research.

I totally disagree with this approach, when a replacement chemical is necessary to save a specific industry. What is your position on the use of ARS researchers on applied research?

Mr. **Yeutter**. I would like in just a moment to ask Deputy Secretary Myers to comment on that particular issue, if he may, because I wasn't here last year when that incident occurred, and he may be familiar with it.

But while he ponders his answer, I would like to comment on the first part of your question which relates to making sure that farmers can continue to farm.

Senator McClure, we do have to balance interests in a sensible way in all of these areas. We will try to do that, as long as I am at USDA. That is not always easy, because the interests do compete, and sometimes one makes neither party happy in a public policy dispute of this nature.

But you and I get paid every day of the week to make these kinds of decisions and judgments, and we are going to make them, and we will call them as we see them.

Unfortunately, in this particular area, we see a lot of litigation, and sometimes the fact that we have a very litigious society makes it difficult for executives like me, or legislators like you, to balance interests, because we are not given the prerogative of doing so when those decisions get tied up in court.

But if we can avoid that particular element as much as possible, and simply do our jobs well, we will try to balance interests in a sensible way.

Now, as to whether ARS does applied research or basic research, I would like to raise that issue with our new Assistant Secretary for Science and Education, as soon as he gets onboard, and get his views, before I come forth with any definitive conclusions. But certainly somebody has to do applied research, and if it is not going to be done by ARS, we have to make sure that it gets down within the agricultural research system of this Nation.

At this point, I would like to turn the question over to Deputy Secretary Myers.

Mr. MYERS. I wish that I had the answer, Senator McClure. I will find the answer for you, and let you know, as to why the decision was made to get away from alternatives to dinoseb, because it is a herbicide that is used in other areas, as well as your area.

[The information follows:]

ARS officials have not instructed the scientists at Pullman, Washington, or elsewhere to either reduce or discontinue applied research in discovering and developing alternatives to dinoseb as a weed control in pea and lentil crops. To date, all herbicides and herbicide combinations that have potential utility in weed control in these crops have been entered into the evaluation process. Such applied research on alternatives to dinoseb will continue for the foreseeable future and other potential alternative compounds will be evaluated as they are identified. It is likely that this research will lead to the registration of a Pursuit-Metribuzin tank mix during the third quarter of 1989. ARS officials will contact the Pea and Lentil Commission in order to assure them of our continuing research effort to solve this problem.

Senator MCCLURE. If you would, please. I understand the general rationale that applied research ought to be spun off into the private sector, if we are going to develop, produce and market these materials, and they have the economic and financial incentive to do so. We ought to concentrate on basic research. That is a general proposition with which I have no difficulty.

But I do have difficulty when, as in this instance, farmers are faced with an order that says get rid of something for which there is no alternative. The private sector obviously will work on that, but meanwhile, the farmers go broke.

That is something that I know you don't want to see happen, and I don't want to see happen. There ought to be some ways in which we can deal with that. Obviously one of the ways is to work initially with EPA to see if there is no phased approach that would work as well as, or perhaps better than, the alternative of an immediate ban.

I do not think that any one of us wants to see unduly hazardous materials continuing to be used, but neither do we want to see, on the other side, farming operations bankrupted.

Senator BUMPERS. How about quit eating apples?

Senator MCCLURE. As a matter of fact, I have not, because I do not watch "60 Minutes" all the time, and I do not believe what they say most of the time.

Senator BUMPERS. I used to peel them and wash them, and now they tell me that does not do any good.

Senator MCCLURE. Well, you would have stopped eating cranberries years ago, and you would have stopped eating bacon and lots of other things that are treated with nitrites, and, you know, you would end up skinny and dead, but you would be healthy as you died.

Senator **Bumpers**. Well, if I am going to be dead, I do not care if I am fat or skinny, either one.

Senator **McClure**. There are some who do—pallbearers, among others, I guess. [Laughter.]

## GUARANTEED LOANS

Mr. Secretary, we have an issue which is very difficult to deal with, and I want to ask you some questions with respect to the issue of providing credit for farmers through the Farmers Home Administration. I do have some concerns with what I see developing.

Of greatest concern to me is how do we involve the banks in the Pacific Northwest in the Guaranteed Loan Program? Congress and the previous administration have attempted to remove the Federal Government from the role of primary credit supplier to Farmers Home borrowers by decreasing the amount of direct operation and ownership funds, and increasing the amount of guaranteed operating and ownership funds.

In some States, the banks have responded by using the Guaranteed Loan Program to the maximum benefit of both the Bank and the borrower. Unfortunately, this is not the case in southern Idaho.

Idaho banks and other regional banks in the Pacific Northwest have not responded to the Guaranteed Loan Program. They state that they do not have the time to deal with the paperwork involved, and that they do not want to become involved with what they consider to be marginal borrowers.

What can you do, as Secretary of Agriculture, to encourage the banks in the region to make greater use of the Guaranteed Loan Program?

Mr. **Yeutter**. It is imperative that we encourage your banks, and a lot of other banks around the country, to be involved, because it seems to me that loan guarantees are the right way to go in this program.

Guarantees are the right way in terms of our dealing collectively with the $150 billion Federal deficit, because we have a reduction in outlays if we can go to guarantee programs in contrast to direct loan programs. So it helps us all in the budget challenge that is ahead of us today.

Beyond that, it seems to me that it is the right way philosophically, in that it provides what is basically a private sector solution to the problem of credit, rather than a public sector solution.

In other words, one ought to have banks and credit associations doing this. That is the way our private enterprise society is built.

## GUARANTEED LOAN PAPERWORK

So, the question is, what do we need to do to make that work? You have raised two points, Senator McClure. One relates to the paperwork. That may or may not be a copout. If it is a copout, we ought to just try to convince them that it is—that the paperwork is not as formidable as they think it is.

If, on the other hand, it really is so formidable that banks are frightened off, it is obviously going to frighten the borrowers off too, as a part of that process, and we ought to make the paperwork simpler. I should think paperwork should not pose a major problem.

Clearly, marginal loans require a higher level of supervision by someone than loans that are well beyond the margin. That is just simply good business. If those commercial banks in southern Idaho are to make marginal loans, which is the essence of this program, then it is imperative that they, or the Farmers Home Administration officials in those areas provide the necessary loan supervision to give those loans a chance to succeed, and those borrowers a chance to succeed.

But that is just good management on the part of all parties that are involved. The paperwork we should be able to handle. We cannot take away the necessity for someone to effectively supervise those loans, because that ought to be done.

### GUARANTEED LOAN RISK

Now, as to whether they are just disinterested, and they do not really want to make loans to marginal borrowers, it seems to me that the answer to that is for you and me and others to convince them that this is a sound public policy approach to giving young farmers, new entrants, a chance to come into the agricultural sector.

If every credit institution in this country says, "I don't want to loan to marginal borrowers," we have a big problem on our hands. If urban creditor institutions have that same philosophy, then we are never going to get folks started up in new businesses in the United States. That would be a tragedy.

There has to be a sense of public responsibility on the part of those commercial bankers or anybody else who is in the lending business. It seems to me that if somebody runs a credit institution, whether it be a bank or a PCA or anything else that person ought to be sufficiently public-spirited to be willing to take a chance on some marginal loans.

Senator McClure. I agree with that in part, but in part I am concerned. Maybe the agricultural economy is better this year so that what I am about to say no longer applies. I pray that is true.

But for many banks whose major economic activity is in the agricultural sector—many of them have gone under or have been troubled, and remain troubled, because agriculture has been troubled in the last several years, starting in the late 1970's and early 1980's as credit costs went up. Margins were squeezed and immediately land values went down and we had a classic problem in rural America of not just the bankruptcy of farms, but the bankruptcy of institutions upon which they relied.

Now, if you get into one of those agricultural areas where the predominant economic activity of the bank may be agricultural businesses, they perhaps are already at the margins of their capacity, and do not feel that they can accept the additional risk that comes even in the guaranteed loan program. There is a loss exposure to them, is that not true?

Mr. YEUTTER. There certainly is some loss exposure there. If those loans, though, are properly designed so they cash flow, which they are supposed to do, then the risk should be relatively small, maybe less risk than they would have with some of their other borrowers.

Senator McCLURE. But if at the same time, that financial institution can operate in both agricultural areas and nonagricultural areas, I think that it has been our experience that the economic recovery is not uniform across all sectors of our society. Agricultural recovery has not been as strong as some other sectors.

If those who have available capital choose to put their money into the areas of least risk it will not be agriculture.

Mr. YEUTTER. Yes; that is certainly correct, Senator McClure, and that is one of the reasons why agricultural areas in this country have often had difficulty obtaining sufficient credit.

Senator McCLURE. Now, I am willing to ask the banks to accept their responsibility, and I have done so. As a matter of fact, I did so to the extent that I had to apologize to some who then got in trouble, because they responded to that pressure, and they kept some farmers in business, and the farmers went bankrupt, and the bank was troubled.

I think that every one of us has seen that happen. Now, are we about to undertake that same thing?

Some of those people look at me and say, "Hey, Senator, I hear you talking. I heard you once before."

If it doesn't work—if we don't succeed in getting them to enter into this guaranteed loan program, then the farmers are the ones who suffer. That is what I am concerned about—that the farmers cannot control what happens there.

You and I can have some influence on the banks, but we cannot guarantee what they do. If the banks refuse or are incapable of responding, then what does the farmer do? My concern is that as we run out of the direct operating loan fund, as that is depleted, and the banks do not step forward regardless of our persuasion or the social responsibility that we like to say they should shoulder, then the farmers are the ones who take the brunt of that policy.

Mr. YEUTTER. That is correct, Senator McClure.

### GUARANTEED VERSUS DIRECT LOANS

Senator McCLURE. I am going to ask you a question, as to whether you are willing to shift money from the guaranteed loan fund into the direct operating loan fund, to kind of take the pressure off the banks?

Mr. YEUTTER. Well, you know, we could do that, of course. But it has to come out of somebody's hide. In other words, if we put another $1 billion into direct loan funds, under Farmers Home, we have got to take $1 billion out of food stamps, or school lunches, or somewhere else in the budget, and that gets to be a very difficult tradeoff.

I do not want to let the banks off the hook too easily here. There are not very many banks that are likely to go under because of the Farmers Home loans that they have made.

Most banks that have gone under, had difficulties with a lot of other loans as well.

Senator **McClure**. But if they are already at the margin, they may not be able to accept the additional risk, and their board of directors, and maybe even the comptroller of the currency may be saying, "You can't accept that additional marginal risk."

Mr. **Yeutter**. That is correct.

Senator **McClure**. And if that is the decision, the farmers who depend upon that credit market are the ones who will bear the burden of the social policy that said that they can be sacrificed, rather than making some other allocation of credit.

Mr. **Yeutter**. That is correct.

I do think, however, Senator McClure, that going back to your earlier comment, this may be a problem that is somewhat behind us now. You know, the economic situation is a whole lot better than it was a few years ago.

### SCHEDULING OPERATING FUNDS EARLIER

Senator **McClure**. For most, I think that is correct. For most banks, most farmers—but not all.

Recently I wrote to you, requesting the transfer of third and fourth quarter direct operating funds into the second quarter to help alleviate a current shortage of direct operating funds.

What will be your decision on that request?

Mr. **Yeutter**. I have not seen that yet, so let me ask Mr. Dewhurst, and he can at least articulate past practices in this area.

Mr. **Dewhurst**. Well, in the past, Senator, we have tended to move operating funds forward earlier in the year, when there was a need.

In truth, I have not seen your letter, and was not aware of the request, but we will take a hard look at it.

Senator **McClure**. Well, again, I do not want to belabor it, because I recognize the difficulty that you have, and that we all have. It is not just your problem—we all have it.

But I am very much concerned that we be very, very sensitive to the needs of those farmers who cannot get credit other places, and the banks will not get involved in the guaranteed loan programs. The farmers are the ones who will suffer, initially and directly, as well as the rural communities which they support.

Mr. **Yeutter**. Again, we need to make some encouraging statements to those banks out in southern Idaho.

Senator **McClure**. Well, I already have, and I will welcome the help.

Mr. Chairman, thank you very much. I have some additional questions that I would like to submit for the record for response in writing. I would like to conclude by a commendation to you, Mr. Secretary.

There are a lot of people who welcomed your appointment as Secretary, and were anxious to get you on the job, and we are glad to see you there.

One of the areas that the chairman focused on is one of the reasons why we are so delighted, and that is in export activities. We do produce more than we can eat or consume in this country.

I would hope that the administration would look very carefully at the cross-program benefits of using renewable resources for energy sources. A gasohol program could greatly alleviate the problem of excess acreage in farm production. The estimates run from 30 to 50 million acres of production which might be used in that manner.

If we take just a couple of billion dollars out of price support programs to support the gasohol program, we might well find a measurable answer to the farm program difficulties, as well as to some of the energy policies of this country.

We—I do not think—in the past have not been able to persuade the administration to look at cross-program benefits in as realistic a manner as it is, I think, possible for us to do. I know that we all get compartmentalized, and I know that your primary interest is not the energy programs of this country, and you have got enough to keep you occupied without looking across at Admiral Watkins' bailiwick.

But I think that there are some opportunities for us in some other ways of expanding the consumption of on-farm production. Until we succeed in doing that, success or failure of agricultural programs and out of U.S. agriculture is going to lie in foreign markets.

We are greatly heartened by your presence in that job.

Mr. YEUTTER. Thank you, Senator McClure, for the kind comments.

I would just like to respond by saying that I am interested in the energy dimensions of this overall economic situation.

As Senator Kerrey knows, Nebraska was one of the very first States to get involved with gasohol, a good many years back. So that is an issue with which I am very familiar from past experience.

Beyond that, Senator McClure, my judgment is that we have got to look for other industrial uses, too, of agricultural products. There is quite a bit of work going on now in that area, some of which seems to be showing a little promise.

So who knows, maybe we will have some breakthroughs one of these years that would help in that regard.

Senator MCCLURE. There are a lot of opportunities out there, and gasohol is not the only one.

You are aware of the fact that at the University of Idaho, the agricultural scientists and agricultural economics department are working together to demonstrate the possibility of using vegetable oils as a substitute for diesel.

I have commented before that it smells a little bit like you are downwind from a McDonald's when a tractor is running, but it works well, particularly at anything but the lowest temperatures.

When it gets awfully cold, the stuff doesn't flow very well. But it works with no adjustment to the tractor and no loss in horsepower.

The only problem that you have there is economics—it costs more.

Senator BUMPERS. Senator McClure, before I turn this over to Senator Kerrey, let me say that on the times when I will be chairing the subcommittee, the rule will be that I will alternate between left and right. In order of attendance—and I owe Senator Grassley an apology, because he actually got here before you did.

The other rule will be that—I did not put any time limitations on anybody this morning, because this will be about the only crack that we will get at the Secretary, and I want everybody to be able to get whatever is on their mind off their chest, and mind—is that questioning will be limited.

With that said, I apologize to Senator Grassley that I did not recognize him earlier this morning.

Senator Kerrey, I am going to turn the questioning and the chair over to you.

Senator KERREY [presiding]. Mr. Secretary, I will begin my questioning of you with a request of myself that I be permitted to submit most of my questions in writing after my questions, and without objection, I give myself permission to do that. [Laughter.]

### POTENTIAL BUDGET SAVINGS

I offer this as an opening question, given that the purpose of this hearing is to begin the process of reaching some agreement as to how spending reductions are going to be made, given the sort of general budget that President Bush submitted.

Given that the lion's share of 1990 farm program outlays for deficiency payments, CCC lending, and so forth, will be the direct result of income levels already established for the 1989 crop year, and that program contracts are being signed right now—we do not have much control over those expenditures.

Since contracts are being signed now, we have an obligation to make those payments. Given as well your strong support, which I appreciate, for the Export Enhancement Program and the need to maintain its funding, and perhaps even to increase it, given whatever happens in the Uruguay round—what sort of options do you see as being available for potential savings?

Mr. YEUTTER. Well, there are significant numbers of potential options, but until we do a much more sophisticated analysis than we have at the moment, it is very difficult to discern which ones should emerge as the preferred options.

There are several variables with which we can work, as you point out. We have the constraints of chronology here, that a lot of decisions are already being made for calendar year 1989. Nevertheless, as we move toward 1990, we can still deal with issues such as target prices, loan rates, acreage reduction programs, and the size of the conservation reserve, in order to affect what we believe would be the right parameters or combination of parameters for fiscal year 1990.

Some of those are more readily changeable than others, and they have different ramifications, depending on the crops. In other words, what we might deem desirable for feed grains might not be the same combination that we deem desirable in wheat, or some other product, and so we are going to have to look at all of those possibilities.

The other one, of course, is whether target price protection is provided for everyone—that is, for all production—as it is at the moment, or whether there will be trimback in target price protection on some basis.

Senator **KERREY**. Are you going to supply this committee at some point with the list of possibilities?

I understand that what you are saying is basically that the options are under review, but given that we are now starting the process of negotiation, I think that the committee needs to have some more specifics.

As I expressed to you during your confirmation hearings, my concern is that if we, as you have indicated, do not know what it going to happen with trade, and we have no idea what the weather is going to do—then the fear I have is that inventories may go up, market prices may go down, and we may end up with deficiency payment outlays beyond what we have right now.

It is simply very difficult for us to predict that, and these budget negotiations need, I think, to get fairly specific fairly quickly.

Mr. **YEUTTER**. It is difficult for all of us, because some of those parameters are unknown at this stage—but yes, the answer is yes, we will.

Senator **KERREY**. Do you have a date certain that you could give us, a date by which such a list could be provided?

Mr. **YEUTTER**. No; but we will try to do it as quickly as possible, because of your needs, and the needs of the House Appropriations Committee and the budget committees as well.

Every committee before whom I have testified has asked the same question, and we will try to get back as soon as we can.

It would be a lot easier, of course, if we could get our top team in place, so that we could get some of the folks who will be coming into the sub-Cabinet posts to focus on this. That is delaying us a bit, as well. But we will have to do the best we can under the circumstances and try to be helpful to you, just as soon as possible. But I do not have a date certain at the moment.

## PAID LAND DIVERSION

Senator **KERREY**. I would appreciate it if, at some point within the next 10 days, you could pick a date by which the committee could expect the information to arrive, so that we can begin to plan for reviewing the options.

I do not want to put too much time into this next issue, since we do not grow cotton in Nebraska, but there was a question asked by Senator Bumpers in regard to a paid land diversion.

Has USDA done an estimate of the potential savings with implementation of that PLD?

Mr. **YEUTTER**. I will ask Deputy Secretary Myers to respond to that.

Mr. **MYERS**. Mr. Chairman, we have done an estimate. What would the savings be on the paid land diversion—we can provide the exact figure.

There would be some savings—$100 million. However, it is very, very late to do that for this year's crop, in order to have an effect on the 1990 outlays.

Senator **KERREY**. But there is a potential savings?

Mr. **MYERS**. There is a potential savings.

Senator **Kerrey**. The first number is $100 million? Not that I am holding you to that. All that I am saying or suggesting at the outset is that even though it is rather late, I would hate for the committee to get to a point later where we say, gosh, if we only had announced a PLD on cotton we could have saved $100 million, and maybe had the resources to fund research or other programs that might at that time happen to have been cut as a consequence of budget restraints.

Mr. **Myers**. But in fairness to the cotton farmers, who are planting in Texas, and getting land ready in other parts of the country, it would be rather unfair to them.

Mr. **Yeutter**. And beyond the timing constraints, Senator Kerrey, I have to say that it is going to be difficult for anybody to persuade me that we ought to take those steps, from the standpoint of agricultural policy.

Aside from the budget savings which are desirable, we have to be very careful that we do not let short-term budget considerations outweigh longer term policy considerations.

Here is an example of an industry that is going to begin to lose additional market share internationally if it is not careful, and the situation that prevails in cotton now is a mixed bag, even for our domestic industry.

I am having textile apparel companies coming to me, saying that if we cannot find a way to get this situation straightened out, they are going to appeal for an increase in imports in this area. That is a 180-degree reversal in policy for that industry, which has typically opposed any import increases. The reason is that it is making our textile and apparel industry increasingly noncompetitive in the international field.

Senator **Kerrey**. We could engage ourselves in a philosophical debate, and we have done that a couple of times before.

I would just point out that there are times when, even though the theory says it should not work, in practice it works.

For example, earlier, again during your confirmation, when Senator McConnell asked the question about the tobacco program, he opened by saying that 200,000 farmers are employed who would not be employed without it.

So it works in that respect—and it works for the companies because they have stability in price. It works for the taxpayer, because it does not cost the Government anything, and it works because we are increasing our international market share.

I think that we have to be very careful to recognize that if we have something that works we should not hesitate to use it, even though philosophically we may have some opposition to it.

Mr. **Yeutter**. Well, it works in some respects. I would be happy to critique the tobacco program if you would like me to do so.

Senator **Kerrey**. Let us do that later.

In your opening remarks, you talked about recovery, and I believe it is occurring. One of the things that I would also observe, respectfully, is that the recovery is very fragile.

I just urge you to consider the fragile nature of that recovery. I agree with you, Mr. Secretary, and recognize your desire to have producers make planting decisions according to the market, rather than according to USDA. And I am sure you are aware that recently the discovery of 1.5 million acres of "extra" corn, and the announcement of 99.4 million head of cattle, instead of the expected lower number, had severe impacts upon the market. Though I am not offering any suggested corrections, I think that USDA needs to be aware that those reports can have an impact upon planting decisions and upon the price that producers are receiving.

On another matter, there is a futures trading program that I will submit a question about. It is something that Extension is working on that I think has some merit, and I hope you will give careful consideration to the suggestion offered in my question.

### SUSTAINABLE AGRICULTURE

Again, along that same line, I would urge you to consider putting back into the budget the sustainable agriculture moneys. I would just urge you to recognize that in practice people are doing it, not only for environmental reasons, but for economic reasons, and it seems to be working.

This effort is widespread, and it is being used in increasing amounts, and I think that one of the things that we should try to do with our Government is to shape it according to what the people themselves are doing. And they are doing sustainable agriculture.

Very respectfully, I would urge your consideration of that, as well.

### INDUSTRIAL USE PLANTING ON SET-ASIDE LANDS

In your confirmation hearings, I asked about farmers being permitted to use some of the set-aside land for planting industrial-use crops, and you indicated that you would be making a decision on that. Could I push you a bit on that, and get the terms and conditions under which that would be permitted, let us say, by the first of April?

Mr. YEUTTER. I will try and do that.

Again, Senator Kerrey, I would really like to have my under secretary in place to participate in those kinds of policy decisions, and that is not yet——

Senator KERREY. Well, I wish that I could hold up Mother Nature.

Mr. YEUTTER. Well, I understand, and I understand that you have particular interests in Nebraska that make that——

Senator KERREY. That I know you share, by the way.

Mr. YEUTTER. Exactly.

Yes; we will try to be responsive to the set-aside use question.

Senator KERREY. Has USDA considered that what we are seeing now in American agriculture is in many ways fairly described as a transitional phase, that the fragile recovery I described earlier, in some ways, is an uncertainty resulting from this transition?

Mr. YEUTTER. Well, we are always going to have uncertainty in agriculture, Senator Kerrey. We have had it for 200 years in this country, and I suspect that we will have it in the next 200.

The uncertainty comes from different factors in different points in time. Sometimes it is the weather uncertainty, as it was this last year. Sometimes it is economic uncertainty, based upon domestic policies or lack thereof.

Sometimes it is international—increasingly it is uncertainty related to what is happening elsewhere in the world, because we are so internationally dependent.

So we are inevitably going to have a lot of uncertainty. There are some transition area phases here in the environmental area and others which are going to change the face of American agriculture in a significant way.

But my judgment, Senator Kerrey, is that we are always going to be in transition.

Senator KERREY. Well, we are always in transition—I will accept that feeling, although I have been around for 45 years now, and it is not as though I have had a lot of experience with it.

Mr. YEUTTER. You are fairly young to be a Senator.

Senator KERREY. That is what my opponent said. [Laughter.]

### COORDINATION OF USDA INITIATIVES

The issue that I was focusing on was perhaps a strategy for assisting particular States in developing value added industries, developing the industrial use crops that were referenced earlier, and developing a strategy so that the land grant colleges could coordinate their efforts.

I know that you talked about a science adviser earlier. I would urge again that you consider that much of this research is not coordinated at all, and there is a lot of money being expended that could be better spent on the sustainable agriculture effort that is going on now at the producer level.

Your knowledge of international conditions, of worldwide conditions, I think, would be extremely valuable in trying to fashion, if not a transitional effort that is unique, at least a transitional effort that is relevant to today.

Mr. YEUTTER. I just might comment by saying that I really believe that these are exciting times for American agriculture. They may be uncertain times, and difficult times, but they are also exciting times. Collectively, the Congress and the executive branch and the American agricultural community are going to go through a lot of change in the next few years, and change for the better, hopefully, in a lot of respects.

So it will require coordination, innovation, and a lot of characteristics of that nature. But if all of us do our jobs well, we may be involved in an effort that will be truly satisfying to a lot of people, including our agricultural constituency.

Senator KERREY. One final question, and then I will yield to Senator Kasten here.

You will, in the next couple of days, depending upon how our mail service works, receive a letter which is a consequence of a field hearing that Senator Harkin held on agricultural credit in Sioux City, IA.

Mr. Secretary, you have a real problem with the Farmers Home Administration, a real problem. They have taken a relatively simple task and made it enormously complicated, and demonstrated that there are some things that Government cannot do.

It is an embarrassment that would be of no consequence except that there are an awful lot of people out there who are suffering as a result of it. I don't harbor any personal grudges against anybody, but I am just telling you that it is a real problem, and I think that the demonstration effort that the Farm Credit System is trying to make work is sort of stuck on the horn of a dilemma.

Because they are concerned about share owners, they are trying to get the maximum value for the repossessed land they sell. But what the demonstration project is intended to do is to allow some of these younger people to get into farming.

I would just urge USDA to take a hard look at the issue, and understand that Senator Harkin and Senator Conrad, who chairs that committee, and I—and those on the Republican side as well—want to make that program work. We do not want to stir this thing up, just to get a round of applause.

We genuinely would like to see it working right now, and Mr. Secretary, it clearly is not.

Senator Kasten.

Senator **Kasten**. Mr. Chairman, thank you.

Mr. Secretary, welcome. We look forward to working with you, and as I have told you privately, we are fortunate that you have decided to take this job. I know that you are giving up a lot in order to serve once more in the Government of the United States, and I thank you for it.

I know that you have decided to postpone discussion of the 1990 farm bill until after at least the Uruguay Round, but I want to talk about a domestic problem, specifically, the fact that marketing dairy products within the United States, at least from the Midwestern perspective, is not very much different from some of the trade barriers that we have against U.S. agricultural products in other parts of the country. I think that we could make a parallel.

## MILK MARKETING ORDERS

I think that you would agree, also, with the GAO report on milk marketing orders and other information that we have had, that these tariffs directly contribute—or I should say, these dislocations directly contribute to the Federal deficit.

The GAO report on milk marketing orders suggests solutions, such as establishing new basing points or removing the barriers on reconstituted milk.

My question to you is—is USDA, under your new administration, prepared to deal with what I would call these domestic trade barriers, and would you be willing to consider exercising your authority to propose amendments to these milk marketing orders, as a first step toward a market economy in dairy without these dislocations that have been built into the system?

Mr. **Yeutter**. Well, the simple answer to that, Senator Kasten, would be yes.

It certainly is only sensible that we consider the kinds of changes that you have outlined. Obviously, I will want to look at the issue with care before I come forth with any specific recommendations, either as to what we might do within existing legislative or executive branch jurisdiction and authority, or what we might need in the way of legislation.

I do not want to buy a pig in a poke in this regard, Senator Kasten, but clearly those programs have to be changed over time if they are to reflect the underlying economic fundamentals of what is happening in our agricultural economy, and specifically what is happening in dairy production and marketing practices.

As you may remember, I had milk marketing orders under my wing when I first came to the Department of Agriculture, a good many years ago. I was thoroughly familiar with the trends and changes at that time. I am less familiar now, having been gone a dozen years or so, but I will try to get tooled up quickly and try to be responsive to the concerns that you have outlined.

Senator KASTEN. Well, I thank you, and I appreciate your answer. As you understand, it is not only the underlying economic situation, but also just in terms of modern technology—distance from Eau Claire, WI, to any place in the country is less significant than it was in the 1930's when we were worried about refrigeration and perishability and stability and other issues.

So it is not only economic, but it is also just plain a new technology which is developing, in terms of our ability to transport, our ability to reconstitute, our ability to deal with these different products. I appreciate your answer, and I look forward to working with you.

Mr. YEUTTER. I was just going to add that you are correct that years ago, dairy production and marketing were localized. They have become increasingly less localized as time has passed, for those and other reasons.

We are getting awfully close to what is a national market in dairy products today. Maybe it is not entirely so, but we are getting much closer than we were 10 or 20 years ago.

Senator KASTEN. I could not agree with you more, and that is what we have got to reflect in this gradual set of changes that we might be able to make in the overall system.

## COORDINATING THE WATER QUALITY INITIATIVE

Let me switch—you talked to Senator Bumpers a little bit about the fact that President Bush's budget contains a water quality initiative, which you talked about also in your prepared statement.

This has been, in effect, a kind of paper-intensive process so far, mostly memos going back and forth, speeches and ideas. Now we are about to go into the implementation phase. My understanding is that your portion, the USDA portion, of this initiative involves five different departments. Who is going to spearhead this, who is going to coordinate this, who is going to be the agency and the person that those of us who are interested in this issue are going to be working with?

I suppose that I am asking for a sort of an organization chart of how you, within the USDA, are going to do this. Who is going to be your lead department, and how can we be sure—and this is the underlying question—that the $47 million that will be allocated for this initiative—as I understand it, we might be able to add a little bit more, if we are lucky in this committee—will be spent wisely? And if the work is not going to be duplicated with these different bureaucracies bumping into each other?

Mr. **Yeutter**. It will be coordinated well, because we are going to coordinate everything well in the Department of Agriculture. I believe that we will have people in place to do that.

I have not yet made a definitive decision as to who the lead will be in this particular area. There are a number of ways of doing that.

I am going to ask Deputy Secretary Myers to comment a bit, because he has already done some analysis of this. I will let him give you a preliminary view, subject, of course, to final signoff by me, as to what ultimately transpires.

That decision will probably not be made, Senator Kasten, until I have my top team in place.

Mr. **Myers**. Senator, it is a very relevant question, and we have been quietly working at his for the last 9 to 10 months in the Department. The coordination is ongoing.

We have had an ad hoc task force working on this, tying in the research needs with the technical assistance, the Extension Service, and the other agencies that are involved.

Of course, the upshot of all this was that the agencies recognized that we have to put additional emphasis on this whole water quality, pesticide, fertilizer, broad life area, and have complete coordination, not only within USDA, but outreach to other departments of Government, which we have already begun.

So, the bottom line is Secretary Yeutter, as he gets his new team in place, will decide whom to put that primary responsibility on, as to the coordination. But you are absolutely correct that it is essential that we not only coordinate within USDA, but with other agencies and State governments as well.

Senator **Kasten**. Well, as you know very well, Peter, because we have worked on these issues for the past several years, it is so easy to talk about these things, and it is so easy to waste the money, and it is so hard to get a little accomplishment that you could actually point to. We have got all sorts of meetings, seminars, groups, interagency task forces, and we do not solve the basic problem.

Just when you have five different agencies that are in charge—I do not know how many top people at these departments within your agency—are going to be wanting to go to the different meetings and seminars, and whatever.

It is extremely important that we do not waste the money, and I think that there is probably no area in which you have more bipartisan, bicameral support on the Hill than on this water quality issue. It is a very, very important one to all of us, whether you are from the Great Lakes States or from Arizona and Texas, it is just very, very important. And we look forward to working with you, Mr. Secretary, in terms of seeing that we do have this, not only coordinated, but led by one or two people who will be accountable and who will be held accountable by you and by us for definable success in this area.

## CONSERVATION LAW ENFORCEMENT

Let me finally switch to a third area, which is related because it has to do with environment and conservation.

You do mention in your prepared statement the conservation title of the 1985 farm bill. This is an issue that this committee has looked at, and we have worked with Secretary Myers often since the implementation of the title. The conservation title by USDA—there have been only 335 in the whole country. I am talking about 3 years, 335 producers have been determined ineligible under the sodbuster plan for the loss of benefits, as of the end of 1988.

With regard to the Swampbuster Program, only 343 producers have been determined ineligible for a loss of benefits. In other words, we have had 3 years, and we do not even have 1,000 people, 1,000 farms in the whole country over 3 years that have been determined in violation and therefore ineligible, and therefore lost their benefits.

Now, a number of cases are on appeal, but as you know, and as Peter knows very well, there are reports and documentation of spotty, I would say even shoddy, enforcement in various parts of the country.

I mean, it is interesting to me for example that not one—not one, either swampbuster or sodbuster violation—has ever been found in a number of States—North Dakota would be one of them. And there are several other States.

Now, I think that it is important that we look at the enforcement and the implementation of not only Sodbuster, but particularly swampbuster, and in light of the President's priorities—President Bush committed himself to wetland preservation in the campaign. He specifically cites the Swampbuster provision in the budget proposal, and here we are with practically zero level of enforcement.

No. 1, why is it that we have not had better enforcement—and that is a job for somebody who was here before you, and that will be Peter's task, I guess. But, Mr. Secretary, do we have your commitment that we are going to start to make a difference here on the conservation title in the 1985 farm bill, particularly swampbuster and sodbuster?

Mr. YEUTTER. Well, I will answer the last part of that question, Senator Kasten, because you certainly do have my commitment to those programs.

I am familiar with them, and we will have top people administering those programs. The Under Secretary for International Affairs and Commodity Programs has been selected, and that nomination either went out late last night or will be out this morning.

We will have other top people administering those programs.

As to what has transpired since the program began, I will ask Deputy Secretary Myers to comment.

Mr. MYERS. Well, obviously there are differences of opinion in some of these States, Senator.

I would say that the fact that we have had this many people denied benefits shows me that the program is working. Now, granted, we have some——

Senator KASTEN. In 3 years, less than 700 people?

Mr. MYERS. The goal is to stop sodbusting and sod conversion, and what it tells me is that we have people's attention.

I know that I have many rather upset farmers calling me and saying, "What are you doing to me?" particularly in swampbuster.

So I have to tell you, to my knowledge, the agencies are really attempting to put these programs in place.

Now, obviously, there are going to be some groups in Minnesota, and maybe North Dakota, that are going to disagree with that. But I am sure that the farm groups' goal and the Sodbuster and conservation compliance is to do two things—reduce soil erosion, but also keep farmers in business, and educate them as to what they have to do.

One of the things that we have done with conservation reserve is to add the provision that you can put wetlands into the conservation reserve, had it been cropland. This will give that person who is having trouble with Swampbuster the option to put that particular piece of ground into the reserve, even if it is not erodible, as long as it just had to be crops.

So there are some alternatives, and the agencies are coming down on the good balance here, and trying to keep people in business, and yet letting them know that this is the law, and that it will be enforced, and has been enforced. As you indicated, it has not been as fast as some groups would have it.

Senator KERREY. Senator Kasten, I have four Senators now.

Senator KASTEN. I am happy now, and I thank you for your response, and for your commitment to the conservation title.

Senator KERREY. Senator Specter and Senator Harkin just asked for 30 seconds, to submit some questions.

Senator SPECTER. Thank you, Mr. Chairman, for the 30 seconds. I will submit these questions for the record.

I would only add, Mr. Secretary, that I join in welcoming you here. You and I have worked together on many matters in the past, and I like your vitality and think that it will be great for the Department.

I might just say within my 30 seconds that it is not generally recognized that there are more people living in rural Pennsylvania than living in the rural part of any other State in the United States, and so I will have a very deep interest in your work.

Thank you very much.

Senator FOWLER. Mr. Chairman, might I have 30 seconds from the time of my friend from Iowa?

Senator KERREY. Yes.

Senator FOWLER. To emphasize the bipartisan nature, I want to support everything that my friend from Michigan said, Mr. Secretary, on water quality.

I was also very pleased, on page 11, that you state that the department is the lead agency in a coordinated Federal effort to enhance water quality, a program identified as a key Presidential initiative.

And from my position with so many here on the Agriculture Subcommittee, and working with you, we want to see the record support that claim.

You are the lead agency, and we will help you in any way, so at the end of the year, when the report comes back, we can substantiate that.

Senator KERREY. We are going to move Senator Kasten back to Wisconsin from Michigan. [Laughter.]

Senator **Fowler**. I beg the forgiveness of my friend from Wisconsin.

Senator **Kerrey**. Senator Harkin.

Senator **Harkin**. Thank you, Mr. Chairman.

Mr. Secretary, I agree that these are exciting times for agriculture, especially in the area of the development of new crops and new uses for those crops. I am pleased to see that you have asked for better funding for research.

I would hope that you would be looking in the Department for places where funding could be shifted so we can get on to biotechnology and finding new uses for crops.

Mr. **Yeutter**. If I could just respond by saying, Senator Harkin, that as we begin to work on the budget for fiscal year 1991 we will do a complete reappraisal of priorities, because that will be the first budget in which I will have total input. What is there for fiscal year 1990, which is now before you, is a budget that was prepared before I came on board, and so we have somewhat less flexibility in making shifts.

We will try to do some within whatever flexibility is there, or opportunities that are there.

Senator **Harkin**. I would like to work with you. Some of us worked on the biotechnology legislation that passed the Senate twice last year. I would like to work with you and the Department in looking at the areas where the legislation got caught up last year.

### RURAL WATER PROGRAM FUNDING

I would also like to make a point about rural water. We heard about water quality. Quite frankly, a lot of people in Iowa and other places, while they are concerned about water quality, they do not even have any water at all.

I have held a couple of hearings in southern Iowa, Mr. Secretary, and I have heard stories of elderly people living in homes in small communities where they have to have friends go to other towns and fill up water jugs just so they have water to drink.

The water level is so low that the sulphur content and other stuff in the wells have made the water undrinkable. Farmers tell me that they have had to sell off their swine herds, because they were hauling water in. They are selling off their breeding stock, for cattle because they can't afford to continue to haul water. So it is really a big problem.

And yet, some of these communities, like one that I have in mind, is within 10 miles of a rural water system. There is fresh water, good water, 10 miles away. All we have to do is dig a line and get it in there and then they'll have water.

But, again, there is no money for it. Under the Farmers Home Grant and Loan Program for Water Systems I believe we have $4 million available in Iowa. However, we've had about $35 million in requests. My staff tells me there may be about $1 billion in backlog in applications for this grant and loan system.

Again, in ordinary times, we would appropriate the money needed to handle it. But, because of the budget it is going to be very hard to find the money.

I guess that the question that I have is, if we can find some money within the budget allocation in this subcommittee, if we can impress on the budget committee the need for some of this, would the administration support a limited amount of additional appropriations over the 1989 levels for Farmers Home Rural Water Programs specifically?

This is my point—specifically? To provide emergency help to rural areas and communities with the greatest need.

Mr. YEUTTER. Well, the way I am going to have to answer that, Senator Harkin, is to say that we would be glad to consider that or any other proposal that the subcommittee might make.

We will obviously have to look at it as a question of competing priorities, and the question becomes, do we put the money here or somewhere else? And if so, out of whose hide does that extra money come?

It is not a question of whether we can add. We have got a $150 billion budget deficit already, as you know, Senator Harkin. Any time that we begin to add in one area, we have got to subtract in some other area. That is where the pinch comes.

My only other observation would be that the Federal Government does not have to do everything. Is State Government helping those folks out in southeastern Iowa?

Senator HARKIN. There are some State programs but they do not have the money to meet the entire need. The need is much greater than what the State itself can meet. I know that the budget deficit is real, and I want to reduce it as much as anybody else.

Again, I keep pointing out that agriculture makes up 4 percent of the entire budget, in round figures, but it comes in for about 16 percent of the cuts, in round figures. I do not think that is fair.

I hope that you do not think that it is fair either, Mr. Secretary, but I will not ask you to comment on that.

But on this one issue of getting funding for water, as I said, Iowa and other States just need money to get lines in.

### CONSERVATION COST SHARING FUNDING

I also want to talk about conservation funding. I am very concerned about the proposal in the budget to cut spending on the conservation cost sharing programs. Spending would fall from $209 million in 1987 to $27 million in 1990.

Again, these programs have done a lot of good in Iowa, and I am sure also in other States, in helping landowners protect the soil and natural resources. The combination of several factors make adequate funding especially important at this time.

First, in order to remain eligible for the farm programs, farmers must begin implementing their conservation plans by January 1, 1990. They must have them in place by January 1, 1995.

Second, the downward trend in target prices has squeezed farm income and reduced the incentive for staying in the farm program in carrying out the conservation plan.

Third, most predictions indicate lower net farm income in future years, as costs continue to rise, while target prices are falling.

It is a simple fact that we will not have conservation if farmers cannot afford it. Most of the conservation can be accomplished without unreasonable cost to farmers, so I do not want to discourage farmers from complying with the conservation requirements.

They should, but there will be many farms where some help will be needed if we are going to have conservation without putting substantial pressure on the farm income.

If we slash the funding for conservation practices, we will significantly increase the number of farmers who may stay out of the program to avoid the cost of conservation, and many of those who do remain in the program will be hard-pressed by the combination of conservation cost and declining income.

Again, I would ask, if money can be found within the budget allocation for this subcommittee, would the administration support maintaining or increasing levels of spending for conservation cost sharing programs?

Mr. YEUTTER. I would like to comment a bit, Senator Harkin, and then I would like to ask my Deputy Secretary, Mr. Myers, to comment, because this is one of his areas of expertise.

My first comment overall would be that I would give the same response that I gave to your last question. Then I would embellish a bit by saying that not all conservation requires Federal Government cost sharing in order to be attractive, as you well know.

Sometimes farmers should engage in conservation practices out of their own self-interest, and oftentimes it pays. In other words, they could save money using conservation practices. We should not have to have Federal financial support to generate the participation.

Even though target prices have been coming down a bit, they are still a very strong financial motivation to participate in those farm programs, and so I doubt that they will drop off very much in any case.

I think also that farmers are in a pretty good position to afford to engage in conservation activities. As I cited before you came in, Senator Harkin, net cash farm income is about at an alltime high, and it looks like overall net farm income will be even higher in 1989 than it was in 1988, although cash income may be down somewhat because of replacement in inventories.

But overall, the financial picture as you know from your own contacts back in Iowa is a lot better than it was a few years ago.

But I would like to ask Deputy Secretary Myers to be more specific now in the response to the particular cut that is involved.

Mr. MYERS. Well, in particular, Senator, and I know that you are aware of this, the overall budget for conservation in 1990 is increased for conservation programs in general.

This particular program that you are talking about is one that has been reduced—the cost sharing of structures. Many States are more than making up the difference out of State funds for permanent practices. My State of Missouri, in particular, with a one-tenth of 1 percent sales tax going directly to the farmers for terraces, for conservation tillage, for tile outlets—for this type of thing.

Even Mississippi—the folks there have gone to their legislature and gotten additional money to do this type of thing.

So it is a matter of priorities. But this overall budget for conservation is increased, and then when you add the increase for water quality, some of which will go to SCS directly for more people in the field—you can see, I believe, that this is a strong budget for conservation, even though in particular, two programs within the agency have been reduced, as others have been increased.

Mr. YEUTTER. A lot of it, Senator Harkin, is a reduction in the program that you talked about, that is essentially matched by an increase in the conservation reserve program.

A lot of it is a tradeoff between the program that you discussed and the long-term conservation reserves.

Senator KERREY. We are now being squeezed by the constraint of time.

Senator HARKIN. Mr. Chairman, if I could just follow up on that one second here.

I do not know where you are getting that. I have here, from a cut on conservation, a difference of about, what is that, $10 million, that is the Soil Conservation Service?

And in ASCS, we have got a cut also. I would like to know——

Mr. YEUTTER. We may be looking at different charts.

Senator KERREY. Can you get an answer back to him, because I do have several other Senators that have questions.

Mr. YEUTTER. The number is up from $2.673 million up to $2.697 million.

Mr. MYERS. Including the conservation reserve. We will get the exact numbers so that we understand exactly where the tradeoffs are made, Senator.

[The information follows:]

### LETTER FROM PETER C. MYERS

MARCH 13, 1989.

Hon. TOM HARKIN,
*U.S. Senate,*
*Washington, DC.*

DEAR SENATOR HARKIN: I regret the confusion at the appropriations hearing concerning the budget for soil and water conservation programs. We were working from a table which appears at page 32 of the Department's "1990 Budget Summary" booklet. This booklet was previously provided to the committee. A copy of the table is enclosed for your information.

You will note that total program level for these programs increases from $2,673.7 million in 1989 to $2,697.4 million in 1990. There are increases recommended for the Conservation Reserve Program and the SCS Technical Assistance Program. There are also proposed reductions in other areas, including the traditional Conservation Cost Share Programs.

The confusion results from the fact that our aggregate appropriations request for these programs is reduced by $863.6 million. This reduction is possible because we have $836.6 million in prior year unobligated balances available to help finance the Conservation Reserve Program in 1990. In other words, only the appropriation request is reduced. The Conservation Reserve Program level, or work efforts under this program, are actually increased in FY 1990 over FY 1989.

We have used program levels in our presentations because they are the best indicator of the actual operating level we are proposing.

Sincerely,

PETER C. MYERS,
*Deputy Secretary.*

Enclosure.

## SOIL AND WATER CONSERVATION PROGRAMS

### PROGRAM LEVEL

[Dollars in millions]

| Agency/program | 1988 actual | 1989 current estimate | 1990 budget |
|---|---|---|---|
| Soil Conservation Service: | | | |
| Conservation technical assistance | $366.4 | $386.6 | $393.7 |
| Soil surveys | 67.7 | 68.2 | 68.7 |
| Snow surveys | 5.4 | 5.5 | 5.5 |
| Plant materials centers | 4.9 | 5.0 | 6.9 |
| Watershed planning and construction | 184.5 | 181.0 | 103.9 |
| River basin surveys and investigations | 12.1 | 12.1 | 9.6 |
| Great Plains Conservation Program | 20.5 | 20.5 | 18.6 |
| Resource conservation and development | 25.1 | 25.1 | 24.5 |
| Trust funds | 0.6 | 0.6 | 0.6 |
| Total, SCS | 687.2 | 704.6 | 632.0 |
| Agricultural Stabilization and Conservation Service | | | |
| Conservation cost sharing programs | 203.1 | 208.8 | 26.8 |
| Conservation Reserve Program | 1,050.5 | 1,760.3 | 2,038.6 |
| Total, ASCS | 1,253.6 | 1,969.1 | 2,065.4 |
| Total, Soil and water conservation programs | 1,940.8 | 2,673.7 | 2,697.4 |

### FEDERAL SHARE OF FARM INCOME

Senator **Harkin**. Thank you.

I would appreciate your getting that to me. And you know, times are getting better, and farmers are getting better. Neil Harrow from Iowa State just came out with some figures, 1988 figures are not in yet, but from 1987, farm payments accounted for 72 percent of net farm income in Iowa.

They accounted for 92.4 percent of net farm income in Illinois. So, when we are facing target price cuts, we are cutting the income of our farmers.

Mr. **Yeutter**. I made that point earlier, too, and that is really a terribly unhealthy situation, and we just cannot have that kind of reliance on the Federal Government.

We have got to try to get a lot more income out of the marketplace.

Senator **Kerrey**. Senator Grassley.

Senator **Grassley**. Thank you, Mr. Chairman.

One of my questions dealt with the subject that Senator Harkin already brought up, the need for rural water in some areas that do not have any water. And so I am just going to associate myself with his analysis of the seriousness of that situation, and see if you can help us find a solution to it.

I could answer a question—you did ask him about State government helping. Iowa's Governor Branstad had a meeting out here last week in which he said that they took, I think, $4 million of community development block grant money to put into rural water systems.

Of course, I do not think that will really go very far, but at least it is some effort on their part to help.

I want to talk mostly this morning about title XII of the 1985 Food Security Act, not exactly in the same vein as Senator Bumpers or Senator Kasten did.

I think that I would not have any disagreement with what Peter Myers said about how he sees the Department acting on the conservation provisions, but I think that I want to point out some things that maybe you have not had a chance to consider. Part of the basis for my consideration is the document that I am going to give you.

## SODBUSTING REGULATIONS

This is a report and conclusions from nine meetings that I held around the State of Iowa last year on the Food Security Act, Title XII, Soil Compliance and Sodbusting.

The idea of mine was to go out there at the grassroots and get opinions. There are a lot of suggestions in here. There is nobody saying, however, that it ought to be repealed.

There is also nobody saying that there are not some problems that need to be worked out. I guess that it was kind of a midterm review. I wanted to bring it to your attention, and see if some of these changes that I would call fine-tuning, could be made. Let us make these provisions workable, so that a few years down the road, we do not have a reaction from the farmers saying this thing is just so doggone bad that we have to repeal it.

There is not talk of that yet, but I think that we want to avoid that, and so I want to give this report to you.

I also want to bring out a point that started me thinking about this. As a producer, I periodically get notices from my own Butler County ASCS office.

Well, one of the notices a year ago said report to the ASCS if you have any broken tile before you fix it.

Well, as a farmer I am not going to be reporting to some low-level Federal bureaucrat every time that I want to go out and fix a broken tile. If somebody in your bureaucracy or someplace else is thinking in terms that this is giving them an in to reestablish some wetlands, or get some cropland back into wetland—you know, legislation like that would never have passed this Congress if that had been the basis.

So, then I started digging into it a little bit. I bring this up to you because I know that you are a production-oriented economist, and you are a farmer, and you appreciate all of the money that has been put into planning, and putting in drainage tile. Some of that tile was put in in the twenties, dug by hand and put in by hand—billions of dollars were invested in it.

We have got drainage districts in Iowa going back to the early 1900's. And under the commenced practices there is already some feeling that those plans that have already been made, decades-old, can be changed.

You cannot go in and tile any more. You might be violating the antisodbusting or antiswampbusting law. Again, you know, just think what that is going to do to production agriculture—the farmer who has an extra $1,000 and wants to go out and finish the rest of his pattern tiling maybe will not be able to do that.

So, I hope that you appreciate that.

I want to read some conclusions that I have. These are not solid conclusions. They are more raising questions to ask you.

First of all, there is our commitment to title XII—my commitment to it. I want to see it work, and I think that people in Iowa, as a result of my hearings, would reaffirm that, but even without my hearings, they still would have told you that.

### JURISDICTION OVER WETLAND DETERMINATIONS

My series of hearings, coupled with my continuing research and investigations, lead me toward a tentative conclusion, that the Department of the Interior might be attempting to gain a great deal of control of the administration of this part of the Food Security Act. I am not prepared to examine the motives of that Department, but it appears that the Fish and Wildlife Service is expending a lot of resources to build a consensus with other agencies, that the Fish and Wildlife Service should be granted technical consultant status with the Department of Agriculture in making wetland determinations.

Let me say parenthetically, I am aware of the act saying that you have to consult with them. I am aware of that, but I think that it has gone way beyond that.

The Soil Conservation Service, by virtue of that agency's technical capability, has had that role since the commencement of the administration of the act. They have been right in the middle of all of the soil conservation that we have had and all of this tiling that we have had.

We have even paid billions of dollars to drain land because you get more soil conservation from water going off through the drainage system than above ground.

My concern, Mr. Secretary, is that we could at best find ourselves with an even more complicated administration of a desirable act that has been somewhat cumbersome to administer.

At worst, we could see an erosion of the role of the U.S. Department of Agriculture, and even see decisionmaking in the hands of those who do not understand production agriculture or care about the practical economics.

There are those who fear that we may jeopardize the hard-earned valuable infrastructure at today's cost in the Midwest, which could amount to billions of dollars, and that is the money invested in our drainage system.

My hope, Mr. Secretary, is that you could share our concerns over this issue, look into them, and that the rule of practical moderation would prevail.

And I am hoping that we can have an intermittent dialog on this issue in the future, and maybe with some constituents who have some concern.

But the bottom line, I believe, as I look at it from an oversight role, and not a legislative role, is that I think that if there was some satisfaction that we were not going too far with soil compliance, soil conservation compliance, antiswampbusting, antisodbusting—if people who knew agriculture were going to be enforcing it and carrying it out, my constituents would not be concerned. But I see too much of that decisionmaking going over to a department that probably cares, but does not understand agriculture, and has a role of not only keeping any more antiswampbusting from happening, but actually going back and having a reconstituting of wetlands. That was never anticipated by Congress.

Mr. YEUTTER. Well, I would comment only by saying, Senator Grassley, that I would hope that we can effectively protect the Department of Agriculture's jurisdiction in this area.

I suspect that we can do that satisfactorily, but we will try to work with our Department of the Interior colleagues in such a way as to ensure that we play our proper role in this process, and they play their proper role in the process.

But as to the overall administrative challenge, I suspect too, Senator Grassley, that we are going to find some of the provisions in this legislation to be very difficult to handle, and we may well have some unfortunate experiences as we attempt to carry out the law as it is written.

There will probably be some unfair and unjust situations that emerge, not because we want them to be that way, but because of potential shortcomings or actual shortcomings in the law.

If so, we will have to come back to the Congress and suggest that you make some changes in the law itself.

But I would like to ask Deputy Secretary Myers as to whether he has perceived problems of that nature in the administration thus far.

### ROLE OF THE FISH AND WILDLIFE SERVICE

Senator GRASSLEY. Before he answers, just some evidence of maybe this slipping away from the Department of Agriculture is the fact that there are regional meetings being held in the United States under the leadership not of the USDA but of the Fish and Wildlife Service, that are so highly organized to see that their input on this system is on a county basis.

It has even gone from State coordinator to district coordinator to county coordinator, to see that they have their input. I think that there has already been a document signed between you—not you personally, but your Department—and the Fish and Wildlife Service that would go beyond anything that you ought to tolerate as a spokesman for agriculture and a guardian for agriculture.

Mr. MYERS. Basically, the word is consult, as you point out, Senator Grassley.

Senator GRASSLEY. And I am saying that it has gone beyond that.

Mr. MYERS. To my knowledge, it has not.

The Chief of the Soil Conservation Service and also the Assistant to the Secretary for Special Services have been very strong on this point, and we have not only consulted and listened, but we have implemented and made our own decisions.

Now, I am aware of this push by some fish and wildlife groups, and I have had some State ASCS directors call me. I have told them very straightforwardly that it is consulting—they are still the deciding officials out there, with the technical advice of the Soil Conservation Service.

So unless there are some things that we do not know about, I really believe that our agencies are in control.

Senator **Grassley**. And I hope that you come to that conclusion after you look into it, because I will be more satisfied if that is the case.

Thank you, Mr. Chairman.

I have some questions that I want to submit in writing.

Senator **Kerrey**. Without objection.

We are now at the break point, and I would respectfully ask that if you could finish in 5 minutes, your cooperation will be greatly appreciated.

Senator **Adams**. I will certainly do that, Mr. Chairman.

I know the Secretary very well, and I can get to the point in 5 minutes.

It is nice to see you again, Mr. Secretary.

Mr. **Yeutter**. It is good to see you, Senator Adams.

Senator **Adams**. I will not go into detail on your comments on page 7, but I would like to submit in writing to you—and I will—a question about the Export Enhancement Program, and your views about what you expect to do with the European Community in the Uruguay Round.

Our wheat farmers are very interested, and I support your position, I believe, in not having a cap on that enhancement program.

### TIMBER POLICY

Senator **Adams**. The second point I want to raise is not in your testimony, but it involves a budget issue, and that is the ban on log exports. I have been at this business, just as you have, since the middle of the 1960's, and a lot of people do not realize that timber is an agricultural product, and treated as such.

First, I would like to thank the Deputy Secretary, who was Acting Secretary, Peter Myers.

Peter, when I called and talked with you in February about the problem that we are having with our timber crop, and the establishment of a timber policy, I wanted to raise several points.

First, we have the problem resulting from the Forest Service's plan to protect the spotted owl. This plan is greatly reducing the harvest in the Olympic Peninsula.

Our problem there is that we have enormous job losses. Our employment losses in towns where we have maybe only 1,000 jobs are as much as 500 or 800.

I just want to be certain that you understand that the spotted owl plan has a very bad effect on our local millowners and lumber producers.

Second, I want to let you know that I cannot support the lifting of a ban on log exports out of the Federal forest. I might support the position of leaving substitution where it is. But I think that we have to discuss that situation.

The third point I want to make is that I hope either you or the Deputy Secretary will help us plan a statewide timber allocation policy. Currently, our forests are planning on a piecemeal basis.

The sustained yield programs in Grays Harbor and Shelton are no longer effective, Mr. Secretary. We need to begin planning on a State and regional basis. I hope you will assist in that process.

The final point that I had, and this is a minor one, and I will submit it in writing, Mr. Chairman, is that we are concerned with the minor crop registration for pesticides facility. Our problem is that a number of the companies going through our reregistration procedure may well decide to drop these programs. They are for specialty crops in our State.

Peas, lentils, potatoes, hops, and pesticides are an enormous problem for us now, anyway. So I simply want to raise the issue, and I would like to ask, Mr. Chairman, the right to submit in writing a question on that.

I thank you, and I think that I have stayed within my 5 minutes.

Mr. YEUTTER. Thank you, Senator Adams. I will be happy to respond to all of those questions.

Senator ADAMS. I would appreciate it.

We do not need to do it now, but I wanted to raise them to the level of your attention, and then we will submit them in writing.

Mr. YEUTTER. Thank you.

Senator KERREY. Senator Cochran.

Senator COCHRAN. Mr. Chairman, thank you.

Mr. Secretary, welcome.

It is a pleasure to welcome you to our committee, and also to see Peter Myers, the deputy, and Stephen Dewhurst, our faithful budget officer. We are glad to have you here before the committee today. Mr. Secretary, I want to compliment you on some of the comments that you have made in the prepared testimony, particularly your statement about support of our export expansion efforts, commitment to long-term development using the Export Enhancement Program, which you point out is now capped at $770 million.

You suggest that in order to meet our trade objectives, limits on the program should not be imposed in the future. I think that we should carefully consider your recommendation.

I also noticed that you mentioned the targeted export assistance program. These programs—EEP and TEA—have both contributed significantly, as you know, in offsetting unfair trade practices and in supporting our U.S. agricultural commodity producers.

I am also glad to see that President Bush's budget restores the proposed reduction in the child nutrition programs. I have had the chance to talk with some of the school feeding program managers in my State of Mississippi. They have told me that without these base funds, they would have had to terminate some of their school lunch programs.

But with this action and this suggestion, I am hoping that we can keep that from happening, and I know that you are supporting that initiative. I compliment you for that.

### CROP INSURANCE

My question relates to crop insurance. You mention in your statement that in our drought legislation last year, we established a commission to look into and make recommendations for improving the Crop Insurance Program. An interim report is due April 1.

However, a report from the National Commission on Agricultural Finance, which was established by the Farm Credit Act Amendments of 1985, was released on February 22. This report recommended that Congress reevaluate the effectiveness and operation of the Crop Insurance Program and choose between crop insurance and disaster payments, rather than making both available.

With the weather reports that we are hearing and some predictions of bad crop years for some of our farmers—I am wondering what your reaction to that report is?

Mr. YEUTTER. Do you mean the report on agriculture credit?

Senator COCHRAN. Yes, sir.

The report that was released on February 22.

### EUROPEAN CRITICISM ABOUT PROPOSED LIFTING OF EEP CAP

Mr. YEUTTER. Before I respond to that, I would like to just make one comment on your earlier statement, relating to the EEP Program.

As you already know, Senator Cochran, I commented on that program in my testimony at the House Appropriations Committee a few days ago, as well as in the prepared testimony that is before you.

When I did so, the Minister of Agriculture of the European Community immediately reacted with a vehement criticism of my desire not to have a ceiling on our Export Enhancement Program for fiscal year 1990.

I thought that comment carried a bit of irony, in that I did not hear him also say that he was prepared to have a ceiling on his Export Enhancement Program.

What this means is that he rather liked the idea of our having a ceiling, particularly so long as his program did not have a ceiling. I would suggest that that makes it most appropriate indeed that we level that element of the playing field by eliminating the ceiling.

### CROP INSURANCE

Going to the latter part of your question, Senator Cochran, I did meet with a couple of members of the Crop Insurance Commission just this last week. They are on schedule to make a preliminary report on April 1, but their final report will not be available until July, as I recall.

So it may not be of immediate benefit in this process, because you will be a long way along with the budgetary or the appropriations process by July.

Nevertheless, having that commission work is certainly appropriate because crop insurance does need a review. It has turned into a bit of a welfare program in recent years, and that was not its intent.

Assuredly, the Congress did not intend it to be so, and I am sure that none of my predecessors as Secretary of Agriculture intended it to be so.

We have got to find a way to get crop insurance back onto a sound basis. If we can do that, the question then becomes whether it should be the sole mechanism for responding to disasters here in the United States, which is the recommendation of the commission that you cited just a bit earlier.

Certainly it would be desirable to have that occur, because now it is tremendously difficult to interest farmers in purchasing crop insurance, if they know that in the event of an emergency, a special program will emerge from Congress that will give them financial relief in that emergency. That serves as an enormous disincentive to the purchase of crop insurance, which makes it almost inevitable that the Crop Insurance Program will be unsuccessful.

It seems to me that the Congress and the executive branch must make some choices here, and if we do, or if we are successful in designing a Crop Insurance Program that will have national appeal so that it can be the mechanism by which farmers can manage the uncertainty and risk of their operations, then it seems to me that we ought to tell them that.

We ought to tell them publicly, that crop insurance is their sole option for protection against risk and disaster, and that the Congress will not bail them out through other kinds of special programs.

Now, the only way for that to be credible, of course, is for Congress to mean that. The test would obviously come the first time that we have a major disaster, and a lot of people come running to Members of Congress saying, "I didn't buy crop insurance, but I'm going to go out of business as a result of a disaster. Help me."

That is very difficult, of course, for any Member of Congress. The question becomes whether we can make that kind of policy decision stick.

I would hope that we could have some additional discussion on that subject as the weeks unfold, and as we evaluate that report by the Commission that is considering changes in the Crop Insurance Program.

If we have an effective Crop Insurance Program, then it seems to me that we ought to give serious consideration to having that program be the sole mechanism for responding to risk, uncertainty, and disaster.

Senator **Cochran**. Mr. Secretary, I thank you very much for your comments and compliment you on your testimony before the committee this morning.

We appreciate your service as Secretary of Agriculture, and we look forward to continuing to work with you through the balance of this term as Secretary of Agriculture.

Mr. **Yeutter**. Thank you, Senator Cochran.

It will be a delight to work with you, as always.

Senator **Kerrey**. Mr. Secretary, there will be some additional questions, as indicated earlier, from Senators Burdick, Bumpers, McClure, myself, Specter, Harkin, Grassley, Adams, Fowler, and Kasten.

## SUBMITTED QUESTIONS

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

## QUESTIONS SUBMITTED BY SENATOR BURDICK

### DISCRETIONARY PROGRAMS

Question: Mr. Secretary, in your testimony you state: "The President has indicated that trimming the growth of entitlements is necessary, but that alone is not sufficient to achieve the budget deficit goals. Further restraint in Government spending will be required. These restraints can be imposed by applying a spending freeze to the vast array of discretionary programs that have not been singled out for one of the Presidential initiatives."

What are the discretionary programs at USDA under this subcommittee? Please identify them specifically.

Answer: I will be happy to provide this information. [The information follows:]

Programs that are not specifically mentioned in the Bush Budget and are included in the residual freeze category are as follows:

Office of the Secretary
Departmental Administration
Hazardous Waste Management
Working Capital Fund
Rental Payments and Building Operations
Advisory Committees
Office of Governmental and Public Affairs
Office of the Inspector General
Office of the General Counsel
Agricultural Research Service
Buildings and Facilities, ARS
Cooperative State Research Service
Extension Service
National Agricultural Library
Economic Research Service
National Agricultural Statistics Service
World Agricultural Outlook Board
Animal and Plant Health Inspection Service
Buildings and Facilities, APHIS
Food Safety and Inspection Service
Federal Grain Inspection Service
Agricultural Cooperative Service
Agricultural Marketing Service:
  Marketing Services
  Payments to States and Possessions
Office of Transportation
Packers and Stockyards Administration
Agricultural Stabilization and Conservation Service:
  Salaries and Expenses
  Dairy Indemnity Program
  Agricultural Conservation Program

- Emergency Conservation Program
- Forestry Incentives Program
- Conservation Reserve Program
- Colorado River Basin Salinity Control Program

Administrative and Operating Expenses, FCIC
Temporary Emergency Food Assistance Program
Farmers Home Administration:
  Rural Development Loan Fund
  Rural Water and Waste Disposal Grants
  Very Low-Income Housing Repair Grants
  Rural Housing Preservation Grants
  Rural Housing for Domestic Farm Labor
  Mutual and Self-Help Housing
  Rural Development Grant Program
  Rural Community Fire Protection Grants
  Compensation for Construction Defects
  Salaries and Expenses
Rural Electrification Administration:
  Rural Telephone Bank
  Purchase of Rural Telephone Bank Capital Stock
  Rural Communication Development Fund
  Salaries and Expenses
  Reimbursement to the Rural Electrification and Telephone Revolving Fund for Interest Subsidies and Losses
Soil Conservation Service:
  Conservation Operations
  Watershed Planning
  River Basin Surveys and Investigations
  Watershed and Flood Prevention Operations
  Resource Conservation and Development
  Great Plains Conservation Program
Food and Nutrition Service:
  Special Milk Program
  Nutrition Assistance for Puerto Rico
  Supplemental Feeding Programs
  Cash and Commodities for Selected Groups
  Food Program Administration
Human Nutrition Information Service
Foreign Agricultural Service:
  The General Sales Manager
Office of International Cooperation and Development:
  Salaries and Expenses
  Scientific Activities Overseas
Public Law 480

## CONSERVATION

Question: Mr. Secretary, you have outlined the goals of President Bush in his document Building a Better America. One of the goals you cite is "protecting the environment." Yet, when I look at your budget for conservation programs, I find significant reductions. Putting aside the Conservation Reserve Program, you are cutting conservation programs by more than $260 million--a cut of almost 30 percent.

Granted, you have proposed some increase in other areas, such as water quality, but that doesn't make up for the cuts. I just can't see how this budget moves us toward the goal of "protecting the environment."

Given this goal by President Bush, how can you justify the cuts in conservation?

Answer: We believe that the funding level proposed in the budget for conservation programs would permit us to continue to address the goal of environmental protection in a significant way even though reductions are proposed in some areas. A high level of technical assistance would remain available to carry out our highest priority conservation objectives. Funding to support continued implementation of the conservation compliance, sodbuster, and swampbuster provisions of the Food Security Act is given a high priority and will play an important role in achieving the President's environmental goals. The proposed reductions are primarily in the area of financial assistance to States and local entities under the premise that they should pick up a greater share of these costs because the benefits are primarily local in nature. There also remains the pressing need to reduce the Federal deficit, requiring that some hard choices be made for allocating limited funds.

## RURAL ELECTRIFICATION

Mr. Secretary, President Bush has decided to follow President Reagan in his attempt to gut the REA program in this country. I am sure you are aware that this proposal has never met with the favor of Congress.

My REA borrowers in North Dakota say that they cannot qualify for credit from private sources. You maintain that "The majority of borrowers can now qualify for private credit".

Question: Can you substantiate that statement? Do you have studies to show such?

Answer: The budget proposes to provide partial guarantees of private sector loans. Electric distribution borrowers will receive a guarantee percentage based on financial need. Borrowers with the greatest financial need would qualify for a 90 percent guarantee which would make them very attractive candidates for a private sector loan. Power supply loans, under the proposal would carry a 90 percent guarantee.

Partial guarantees will reduce the government's liability while providing the security necessary for the borrower to obtain funds from private sources. In this way the private sector would share some of the risk associated with these loans. REA has received expressions of interest from private lenders regarding providing funds for REA borrowers.

## FOOD ASSISTANCE PROGRAMS

Question: The 1990 budget for USDA food programs is increased by almost $1 billion over 1989. In addition, you state that your budget is $1 billion higher than the Reagan budget. However, there have been no budget amendments so requesting, and your people tell me there will not be an amendment. Furthermore, the material the committee received from OMB does not show increases in these programs to the tune of $1 billion. Where is this $1 billion increase over Reagan's budget for food programs?

Answer: The Bush budget restores the $935 million in budget authority that would have been eliminated under the Reagan proposal by fully funding the Child Nutrition Programs. We continue to support the Reagan budget proposals in the Food Stamp and Special Milk program areas and will be submitting appropriate legislative proposals and supporting materials to the Congress shortly.

### FEDERAL COST SHARE OF STATE DISTRIBUTION EXPENSES

Question: Does it include restoration of the $50 million for TEFAP distribution and storage costs?

Answer: The Bush budget continues the Reagan budget proposal to eliminate $50 million in Federal cost sharing of intra- State distribution expenses. With distributions of surplus commodities down dramatically over recent years, administrative funding is no longer necessary. The Federal government pays the full cost of the commodities, initial processing and shipment to locations within the States. States, in combination with local volunteer efforts, should be able to further process and deliver the commodities to needy households without further Federal assistance.

### WIC BUDGET

Question: Does it include an increase for WIC?

Answer: The Reagan and Bush budgets propose a $32 million increase in funding for WIC above the 1989 level. Overall, we expect almost a 20 percent increase in participation by the end of 1990.

This participation increase is possible without a larger budget increase because the average cost per participant is falling as the program expands to new clients who cost less than average. More important, due to cost containment initiatives, principally infant formula rebates, we expect to serve another 700,000 participants. Thus, while the fiscal year 1990 budget request will support a monthly average of about 3.7 million participants before taking into account participation permitted via recycled dollars from infant formula rebates, 1990 participation should reach 4.4 million persons if all of the rebate money is spent.

As you know, the Congress included language in the Department's 1989 appropriation bill requiring States to look into cost containment measures by August 31, 1989. This helps push all of the States to explore the advantages of cost containment, especially rebates on infant formula. In fact, I am told that you authored that amendment, so I know you support program expansion through more efficient use of tax dollars. If they have not already done so, at this time most States are well on their way to negotiating with infant formula manufacturers and many are obtaining remarkable cost savings. This, along with the proposed budget increase will permit substantial program growth.

## TECHNICAL AMENDMENT TO THE REAGAN BUDGET

Question: How can you claim a billion dollar increase over Reagan's budget if you do not amend it?

Answer: This change results from a continuation of the Child Nutrition Programs under current law. Since the current law figures are included in the Reagan budget no change is necessary. The legislative change to the Child Nutrition Programs proposed by President Reagan have been eliminated from President Bush's proposal.

## EXPORT ENHANCEMENT PROGRAM

Question: I have been contacted by durum and barley growers several times over the last several months about the Export Enhancement Program. They are concerned about the Department's refusal to use the EEP to move these two crops into the export market. I would like an explanation about the Department's reluctance to use the EEP for these two crops.

Answer: Both barley and durum are key components in the European Community's subsidized export program, and thus, are very well suited for export initiatives under the Export Enhancement Program. Challenging the unfair trading practices of competitor exporting countries is one of the primary objectives of the program.

However, sales of these two items under the EEP have been less active this past year because of concern that a situation had developed in which bonuses would "snow-ball" as a direct result of EEP programing. Because of limited supply due to the drought and the tight holding of available stocks, EEP programing was threatening to start an upward cycle of higher prices and higher bonuses. When these conditions prevail, it is extremely difficult to achieve any real gain in export sales. Moreover, when the point is reached at which the bonus levels necessary to make barley and durum EEP sales become substantially larger than those for other classes of wheat, the program is open to criticism that certain producers are being favored over others. This is the situation we faced this past year.

## BARLEY

Question: I have been informed recently that barley growers will be required to repay around $.30 of their advanced deficiency payment. While they do not contest the Department's authority to seek repayment, they do contest the amount of the repayment.

It seems that, in calculating the deficiency payment, USDA used the market price of feed barley to calculate one price and used the combined market price of feed and malting barley to calculate the other price. The result is that growers have to repay almost twice as much compared to the amount to be repaid if only feed barley was used in both calculations.

Do you have any plans to make this situation more fair for barley growers? If not, I would like to know why the Department will not reconsider its action.

Answer: The Department has no plans to change the method for determining deficiency payments for barley, as barley growers are being treated fairly. Deficiency payment calculations have been based on national weighted market average prices for all barley since the inception of the program, and the target price for barley is established and widely publicized well in advance of program signup.

The Food Security Act of 1985 established the method currently used to determine the national barley deficiency payment rate. All barley producers receive the same per-bushel deficiency payment rate. Deficiency payments are made up of two components: regular deficiency payments and "Findley" or emergency compensation payments. The payment rate for the regular deficiency payment is determined by the difference between the target price and the higher of the 5-month weighted average market price or the basic loan rate. The 5-month payment rate for the 1988-crop barley was zero because the weighted average price for barley during June-October 1988 was $2.83 per bushel--above the target price.

The second component of the barley deficiency payment--the "Findley" payment or emergency compensation payment--is determined by the difference between the basic loan rate and the higher of the 12-month weighted average market price or the announced (reduced) loan rate. The 1988-crop weighted average market barley price will not be known until July 1989, so it cannot yet be determined if any "Findley" payment will be made. However, barley demand has been strong and supplies tight, and the 12-month price will likely exceed the basic loan rate of $1.80 per bushel, resulting in no "Findley" payment. In this case, producers who requested and received advance payments on barley will be required to repay them.

A large portion of barley planted and domestically used for feed is of malting barley varieties. Many producers plant malting barley varieties hoping to achieve a high quality product and therefore a premium from the malting industry. However, if the quality of their crop is poor, or if there is a surplus of high quality malting barley from other producers, the farmer often sells or uses his malting barley crop for feed. It may be many months before the end use of the crop is known. To attempt to treat feed and malting barley differently would create confusion.

We do not believe that the program discriminates between malting barley and feed barley since either type may be produced under the program for identical loan and target price protection and both types are grown and marketed by program participants.

Altering deficiency payments to increase the amount of advanced payment retained by barley growers will only add to the budget deficit at a time when we are desperately trying to reduce Government outlays.

## CONSERVATION RESERVE PROGRAM

Question: To date, some 28 million acres have been entered into the Conservation Reserve Program. The farm bill states that 40 million acres are to be entered by the end of crop year 1990 sign-ups. I note that you have expanded the eligibility of land that can be entered into the reserve. Do you expect to meet the 40 million acre goal?

Answer: The rate of participation in the CRP has declined since the fourth sign-up in February 1987. The decreasing rate of enrollment is attributable to the substantial increase in commodity prices, decreased set-aside requirements, and the fact that the "easy acres" were enrolled first. I am currently reviewing CRP sign-up options. The budget presented for FY 1990 is based on an anticipated CRP enrollment of 40 million acres.

Question: When, theoretically, is the last time that 1990 crop land can be entered?

Answer: The program is operating under the assumption that all CRP contracts, including 1990 crop land, must be signed prior to October 1, 1990.

Question: Are you contemplating additional measures to reach the acreage goal?

Answer: We will continue to encourage enrollment of cropland into the CRP in the most cost effective manner possible to meet the program goals. We are evaluating future acreage sign-up options but at this time there are no plans for instituting additional measures to reach the acreage goal.

## CONSULTING SERVICES

Question: Last year, there was interest in the Senate to limit the amount of money spent for consulting services. The Department was opposed to the amendment that was offered and adopted by the Senate, but later deleted in the conference committee. Please comment on the amendment and the Department's position.

Answer: The Department shares the concerns that the Congress has with regard to limiting the use of consulting services only to those services that are absolutely necessary to directly support the most efficient operations of the Department's programs and only in cases where in-house expertise and resources are not available or not prudent to staff for one time projects of short duration. USDA has a policy that all consulting service contracts be solicited on a competitive bid basis. Any exceptions to this must be fully justified per the provisions of the Federal Acquisition Regulations. In addition, all consulting contracts awards over $50,000 must be reviewed and approved by the Assistant Secretary for Administration.

A report by the General Accounting Office in June 1988 on the use of government consultants for Fiscal Year 1987 showed that the Department of Agriculture ranked among the lowest of the major cabinet agencies in the use of consulting contractors. Even using the expanded definitions of the President's Council on Management and Administration in the GAO report, the Department would still be a relatively small user of consulting contracts.

Due to the low dollar volume of such transactions in Fiscal Year 1987 the Department's base is small. This small base along with a planned increase in the use of consulting contracts for Fiscal Year 1989 would have resulted in significant program disruptions.

Some of the areas where the use of consulting contracts would be affected are as follows:

FSIS. Contracts with Texas A&M University to train meat and poultry inspector personnel, Science Program Sample Analysis contracts, Rapid Response Residue contracts.

FCIC. Study of actuarial rates and coverages, electronic data services and crop insurance advertising.

REA. Redesign of major accounting systems and contracts for third party review of financially troubled borrowers.

FmHA. Contracts providing loan servicing, data entry associated with loan processing, and training.

In addition, the Soil Conservation Service's efforts to implement the conservation provisions of the Food Security Act of 1985, audit programs of the Inspector General, and major assessments, electronic benefit transfer test and national surveys which guide the management of the Food and Nutrition Service Food Stamp and the Women, Infants, and Children Programs would be severely affected.

We agree that there should be prudent controls over the use of consulting contracts and we are confident that there are sufficient controls in effect within the Department of Agriculture.

Question: How much did the Department spend on consulting services during Fiscal Year 1988 and what are the estimates for Fiscal Years 1989 and 1990?

Answer: I will provide more detailed information by agency and account to the Committee for your information.

[The information follows:]

UNITED STATES DEPARTMENT OF AGRICULTURE
Advisory and Consulting Services--FY 1988
(Dollars in Thousands)

| Agency | Individual Exp. and Consultants | Studies, Analyses and Evaluations | Management & Professional Supp. Services | Engineering & Technical Services | Total | 5 U.S.C. 3109 Limitation |
|---|---|---|---|---|---|---|
| OSEC | 0 | 0 | 0 | 0 | 0 | 0 |
| DA | 10 | 0 | 1,073 | 0 | 1,083 | 10 |
| OGPA | 7 | 0 | 18 | 0 | 25 | 7 |
| OIG | 50 | 0 | 322 | 265 | 637 | 50 |
| ARS | 0 | 939 | 43 | 0 | 982 | 0 |
| CSRS | 0 | 0 | 76 | 0 | 76 | 0 |
| NAL | 16 | 0 | 0 | 0 | 16 | 16 |
| NASS | 0 | 0 | 7 | 23 | 30 | 0 |
| WB | 0 | 0 | 0 | 0 | 0 | 0 |
| FAS | 0 | 0 | 0 | 0 | 0 | 0 |
| OICD | 0 | 0 | 0 | 0 | 0 | 0 |
| ASCS | 52 | 15 | 0 | 0 | 67 | 52 |
| FCIC | 0 | 430 | 0 | 0 | 430 | 0 |
| REA | 0 | 167 | 0 | 0 | 167 | 0 |
| FmHA | 0 | 1,542 | 19,550 | 3,156 | 24,248 | 0 |
| SCS | 0 | 0 | 0 | 0 | 0 | 0 |
| APHIS | 10 | 548 | 54 | 0 | 612 | 10 |
| AMS | 0 | 0 | 0 | 0 | 0 | 0 |
| PSA | 0 | 0 | 0 | 0 | 0 | 0 |
| FGIS | 20 | 0 | 0 | 0 | 20 | 20 |
| AC | 0 | 0 | 0 | 0 | 0 | 0 |
| OT | 0 | 0 | 0 | 0 | 0 | 0 |
| FSIS | 5 | 316 | 1,307 | 0 | 1,628 | 5 |
| FNS | 0 | 5,834 | 582 | 0 | 6,416 | 0 |
| Subtotal | 170 | 9,791 | 23,032 | 3,444 | 36,437 | 170 |
| FS | 100 | 654 | 452 | 301 | 1,507 | 100 |
| Total | 270 | 10,445 | 23,484 | 3,745 | 37,944 | 270 |

UNITED STATES DEPARTMENT OF AGRICULTURE
Advisory and Consulting Services--FY 1989
(Dollars in Thousands)

| Agency | Individual Exp. and Consultants | Studies, Analyses and Evaluations | Management & Professional Supp. Services | Engineering & Technical Services | Total | 5 U.S.C. 3109 Limitation |
|---|---|---|---|---|---|---|
| OSEC | 75 | 0 | 0 | 0 | 75 | 75 |
| DA | 10 | 0 | 1,494 | 0 | 1,504 | 10 |
| OGPA | 10 | 0 | 10 | 0 | 20 | 10 |
| OIG | 50 | 0 | 18 | 192 | 260 | 50 |
| ARS | 115 | 100 | 50 | 0 | 265 | 115 |
| CSRS | 100 | 0 | 76 | 0 | 176 | 100 |
| NAL | 35 | 0 | 0 | 0 | 35 | 35 |
| NASS | 40 | 0 | 14 | 25 | 79 | 40 |
| WB | 0 | 0 | 0 | 0 | 0 | 0 |
| FAS | 0 | 0 | 64 | 0 | 64 | 0 |
| OICD | 25 | 0 | 0 | 0 | 25 | 25 |
| ASCS | 100 | 30 | 0 | 0 | 130 | 100 |
| FCIC | 0 | 2,416 | 30 | 0 | 2,446 | 0 |
| REA | 103 | 400 | 0 | 0 | 503 | 103 |
| FmHA | 500 | 2,576 | 24,342 | 3,082 | 30,500 | 500 |
| SCS | 385 | 0 | 0 | 0 | 385 | 385 |
| APHIS | 40 | 0 | 0 | 0 | 40 | 40 |
| AMS | 70 | 1 | 0 | 0 | 71 | 70 |
| PSA | 5 | 0 | 0 | 0 | 5 | 5 |
| FGIS | 20 | 0 | 0 | 0 | 20 | 20 |
| OT | 20 | 0 | 0 | 0 | 20 | 20 |
| ACS | 15 | 0 | 0 | 0 | 15 | 15 |
| FSIS | 75 | 316 | 1,307 | 0 | 1,698 | 75 |
| FNS | 150 | 6,426 | 1,035 | 0 | 7,611 | 150 |
| Subtotal | 1,943 | 12,265 | 28,440 | 3,299 | 45,947 | 1,943 |
| FS | 100 | 729 | 497 | 332 | 1,658 | 100 |
| Total | 2,043 | 12,994 | 28,937 | 3,631 | 47,605 | 2,043 |

UNITED STATES DEPARTMENT OF AGRICULTURE
Advisory and Consulting Services--FY 1990
(Dollars in Thousands)

| Agency | Individual Exp. and Consultants | Studies, Analyses and Evaluations | Management & Professional Supp. Services | Engineering & Technical Services | Total | 5 U.S.C. 3109 Limitation |
|---|---|---|---|---|---|---|
| OSEC | 75 | 0 | 0 | 0 | 75 | 75 |
| DA | 10 | 0 | 1,494 | 0 | 1,504 | 10 |
| OGPA | 10 | 0 | 10 | 0 | 20 | 10 |
| OIG | 50 | 0 | 90 | 128 | 268 | 50 |
| ARS | 115 | 100 | 50 | 0 | 265 | 115 |
| CSRS | 100 | 0 | 76 | 0 | 176 | 100 |
| NAL | 35 | 0 | 0 | 0 | 35 | 35 |
| NASS | 40 | 0 | 14 | 0 | 54 | 40 |
| WB | 0 | 0 | 30 | 0 | 30 | 0 |
| FAS | 0 | 0 | 60 | 0 | 60 | 0 |
| OICD | 25 | 0 | 0 | 0 | 25 | 25 |
| ASCS | 100 | 30 | 0 | 0 | 130 | 100 |
| FCIC | 0 | 445 | 32 | 0 | 477 | 0 |
| REA | 103 | 0 | 0 | 0 | 103 | 103 |
| FmHA | 500 | 2,350 | 22,118 | 3,132 | 28,100 | 500 |
| SCS | 385 | 0 | 0 | 0 | 385 | 385 |
| APHIS | 40 | 0 | 0 | 0 | 40 | 40 |
| AMS | 70 | 1 | 0 | 0 | 71 | 70 |
| PSA | 5 | 0 | 0 | 0 | 5 | 5 |
| FGIS | 20 | 0 | 0 | 0 | 20 | 20 |
| FSIS | 75 | 316 | 1,307 | 0 | 1,698 | 75 |
| OT | 20 | 0 | 0 | 0 | 20 | 20 |
| ACS | 15 | 0 | 0 | 0 | 15 | 15 |
| FNS | 150 | 9,554 | 1,900 | 0 | 11,604 | 150 |
| Subtotal | 1,943 | 12,796 | 27,181 | 3,260 | 45,180 | 1,943 |
| FS | 100 | 861 | 547 | 315 | 1,823 | 100 |
| Total | 2,043 | 13,657 | 27,728 | 3,575 | 47,003 | 2,043 |

## RURAL DEVELOPMENT

Mr. Secretary, I note from one news account that you stated that rural development would occupy a large part of your time. However, rural development funding for grants and loans, for example, is dramatically reduced in your budget.

Question: What do you plan to do in the area of rural development? Do you envision new programs to promote rural development in place of those that are in your budget?

Answer: I do not envision any new programs. Given the present budget constraints, it would be very difficult for either the Administration or the Congress to find funding for new efforts. I plan to see if there are ways that we can make better use of existing programs. An example of how that can be effective is the Business and Industry loan guarantee program which has been changed to give a higher priority to smaller projects. This change allows us to help more areas make the transition to a more diversified economy. There are probably other changes that should be explored before thought is given to new programs.

## CBO WIC BUDGET PROJECTION

Question: The Special Supplemental Food Program for Women, Infants, and Children is one of our most effective federal nutrition programs. The budget assumes an inflationary increase of $.65 per participant for the 3.7 million served on average each month. This adjustment will result in a WIC program increase of $32,000,000 over the 1989 level. Yet, I understand the Congressional Budget Office assumes $79,000,000 will be needed to support current services. Can you clarify this discrepancy in your assumptions?

Answer: The Congressional Budget Office estimate is higher than USDA's, because their estimate does not take into account the fact that the average cost per participant is expected to drop as the current unserved population is brought onto the program. This drop will occur because currently unserved eligibles consist primarily of older, lower priority, eligible children. Almost all infants costing an average of $46 per month are on the program, so growth will come from the child category, at an average cost of about $30 per month. As a result, we will serve more participants and will exceed the current services participation level with the budget as requested.

However, I would hasten to point out that the WIC program is a priority program for this administration. We encourage prudent growth in the program, and, as you know, have suggested that increases be considered for the program if we can find appropriate offsetting decreases. This is something that we would like to negotiate.

## WIC COST CONTAINMENT

Question: Also, would you comment on what effect you believe cost-containment procedures, such as infant formula rebates, will have on WIC program participation?

Answer: Cost containment procedures are permitting substantial expansion in participation of the WIC program. Not only do the savings result in funds being recycled to help additional recipients, but the fact that the new recipients get packages that are less expensive than average, makes average costs go down permitting benefits to go to even more needy people. We currently expect about $300 million to be saved in 1990 through infant formula rebates.

This will provide for 700,000 participants per month more in 1990 than would be served without cost containment. Average monthly participation could reach up to 4.4 million women, infants and children. Almost all infants and pregnant women will then be on the program -- nearly two-thirds of all eligibles would be participating.

## CHILD NUTRITION PROGRAM SUBSIDIES FOR NON NEEDY

Question: Mr. Secretary, can you tell me whether the Bush Administration will follow the Reagan Administration policy relative to eliminating subsidies for breakfasts and lunches for all but lower and low-income children?

Answer: The Bush Administration proposes to fund the breakfast and lunch programs at their current law levels. We are proposing to drop the budget provision that would have eliminated meal subsidies to non needy children.

## FEDERAL REVIEW FOR CNP

Question: The budget again proposes to eliminate the Nutrition Education and Training Program (NET), while adding another $1,200,000 to the $5,200,000 available for independent federal audits. Recently, I have heard expressions of concern that school food service managers are spending their time on accounting and auditing, rather than on nutritional development or meal planning. How would you say your budget addresses this concern?

Answer: Since so much concern has been expressed on this program accountability issue, I am going to go into this in some detail.

We too are concerned about the accumulated burden that accounting and auditing requirements create for schools. However, there are serious indications of accountability problems in the $5 billion Child Nutrition Programs, which we cannot unilaterally overlook.

The Department's fiscal 1989 Appropriations Act directed the Food and Nutrition Service (FNS) to conduct an independent review of a representative sample of school districts. The results of the 200 reviews will help FNS determine whether the indications of accountability problems--the OIG audits and FNS administrative reviews--are isolated incidents or the symptoms of a more widespread problem. It will permit us to determine whether the current system of State audits, the Assessment, Improvement and Monitoring System (AIMS) is adequate or needs to be altered.

Federal review will not duplicate AIMS efforts. No school district subject to the AIMS review will be subject to a Federal review. Of the approximately 20,000 school districts participating in the National School Lunch Program about 5,000 will receive AIMS reviews and another 200 will receive Federal reviews. As you can see, Federal review will occur in a small number of school districts and is not going to increase accounting and auditing effort for those that are well managed.

There is a great deal of misinformation being generated about the extent of required audits and reviews of school lunch operations. Moreover, many of the activities that Federal review is cited as being duplicative of are basic management activities that are necessary for effective oversight of the program. Federal review will not require additional efforts by school food service managers--it uses Federal personnel to review whether current requirements are being met.

## NUTRITION ASSISTANCE FOR PUERTO RICO

Question: The Bush Administration proposes to reduce the Nutrition Assistance Program for Puerto Rico to its 1985 funding level of $825,000,000, a reduction of almost $84,000,000 below the 1989 level. How can you justify this reduction?

Answer: The economic situation in Puerto Rico has improved in recent years. For example, the unemployment rate dropped from 23.4 percent in 1983 to 14.2 percent in November, 1988, a 39 percent reduction, while the population remained fairly constant. The Administration therefore believes that the 1990 request reflects an appropriate funding level for this program.

Also, as you know, the Nutrition Assistance Program for Puerto Rico (NAP) is a mandatory block grant program. Like other mandatory programs, the appropriate funding level may be below the authorized level. For example, the Food Stamp Program authorization for 1989 is $15.4 billion and the amount appropriated by Congress is $13.6 billion. As you can see, there is nothing unusual about the request for NAP.

Question: Will the number of households or level of nutrition benefits be affected?

Answer: The Commonwealth of Puerto Rico has considerable flexibility to establish eligibility standards and benefit levels which could affect the number of households participating and their benefit levels. Also, Puerto Rico can use this flexibility to assure that eligibility and benefits are set such that they stay within appropriated funding levels. As a result, we could not rule out the possibility that Puerto Rico might make changes that would affect households and their benefit levels.

## TEMPORARY EMERGENCY FOOD ASSISTANCE PROGRAM

Question: The Bush budget eliminates $50,000,000 in funding for the storage and distribution of commodities provided through local agencies to the poor and homeless. How can you reconcile elimination of these funds with President Bush's stated priority to combat homelessness and meet special obligations to the poor?

Answer: The Temporary Emergency Food Assistance Program was created as a temporary outlet for the huge quantities of surplus commodities USDA purchased via the farm programs. USDA's primary program to assist the needy is the $13 billion Food Stamp Program. We provide about $8 billion more in other programs to help the needy.

Since the Temporary Emergency Food Assistance Program was begun in 1981 the federal government has paid for all of the over 5 billion pounds of food, worth over $5 billion dollars. In 1986 when we looked into this, States shared only 12 percent of the State level administration costs and three-tenths of one percent of overall program costs. With distribution of surplus commodities down dramatically over previous years we do not believe that Federal subsidy of State distribution funds is necessary.

We continue to support the Temporary Emergency Food Assistance Program as an efficient temporary and emergency mechanism for the distribution of large quantities of surplus commodities. However, we believe that the States should assume a greater share of the distribution costs generated by this program and we continue to emphasize the importance of voluntary labor in local distribution efforts. In this way the program can remain responsive to local needs. However, I would like to point out that while TEFAP food has been provided to many millions of people, only a very few are from the homeless population. The Department's 1987 report on TEFAP characteristics indicated that less than one percent of TEFAP participants were homeless.

## PUBLIC LAW 480

Question: The budget request for Public Law 480 credit and concessional sales agreements assumes that commodity prices will drop in the coming fiscal year, resulting in an appropriations reduction of $44,000,000. Do you believe this is a realistic assumption?

Answer: The commodity prices used to prepare the FY 1990 budget submission for P.L. 480 were developed in December of 1988 and assume a return to more normal production patterns for the 1989 crop. At this time, we do not believe this assumption is unrealistic. Based on those price projections, we had forecast an increase of 200,000 metric tons in P.L. 480 Title I/III shipments in FY 1990.

Question: Will the Department provide the Committee with updated estimates later this year if commodity prices do not drop?

Answer: We would be willing to keep the Committee informed regarding crop production developments and changes in our commodity price projections. Of course, in some cases solid estimates of 1989 crop production will not be available until late summer.

## AGRICULTURAL TRADE PROMOTION

Question: Mr. Secretary, you have certainly been an active and respected spokesperson for the United States in bilateral and multilateral trade negotiations. We are all pleased with recent progress in regaining and promoting agricultural trade, and we are anxious to continue the trend of growth in the value and volume of commodities for export.

To what degree do you believe export promotion programs, such as EEP, TEA, and the Cooperator Program are responsible for the progress we have made?

Answer: There are a number of factors which have contributed to the recent increases in U.S. agricultural exports. Chief among these was the enactment of more market-oriented farm legislation in the Food Security Act of 1985. Provisions of that Act have enabled the United States to be more competitive in the world marketplace and thus gain back markets which had been lost in previous years.

Our export programs have also played a role in this recent improvement in our trade performance, including those you have cited. The EEP has been an effective means for meeting the subsidized competition of other exporting countries and has stopped the steady incursion of subsidized commodities into U.S. export markets. This is especially true in the case of wheat.

The Targeted Export Assistance (TEA) Program has been the focus of a much-expanded effort by U.S. agriculture to penetrate overseas markets. While no formal evaluation of the program has yet been undertaken, there is some evidence that the sales promotion activities supported by TEA have lead to increased sales of U.S. agricultural products in some markets. The Market Development Cooperator Program supports a variety of export promotion activities overseas, such as trade servicing, training, technical seminars, trade exhibits, and merchandising and trade missions to and from the United States. These types of activities do not always achieve immediate sales opportunities, but they do lay the foundation for the development and growth of markets over the long term. Recent increases in U.S. agricultural exports have no doubt benefited from cooperator activities undertaken in previous years.

Question: What is the Administration's rationale for supporting TEA at $200 million, rather than the $325 million authorized by Congress?

Answer: A reduction in the TEA program level to $200 million in FY 1990 has been identified as one of the possible components for achieving proposed savings in CCC spending for the price and income support programs. These savings are expected to be the subject of negotiations between Congress and the Executive Branch, and thus the final program level for TEA in FY 1990 is likely to be determined during the course of those negotiations.

Based on current law, the mandated level for TEA in FY 1990 is $325 million. This is a sizeable increase above the $110 million program level which was authorized during the first three years of the program and this year's level of $200 million. An increase in the program level to $325 million next year needs to be considered carefully, particularly in light of the administrative problems which the program has experienced in its start-up phase.

Question: What are your reasons for restoring EEP to $1.0 billion? Do you believe EEP is effective?

Answer: Our estimate that up to $1.0 billion of CCC commodity certificates could be issued as EEP bonuses during FY 1990 reflects an assumption of a return to more normal levels of crop production this year. This could mean increased programing for certain commodities which have seen less sales activity this year. Also, the level of bonuses may increase if the difference between the U.S. and world prices widens. The total value of EEP bonuses awarded was $933.2 million in FY 1987 and $992.2 million in FY 1988, so an estimate of $1.0 billion for FY 1990 is in line with program activity in prior years.

The EEP was established in 1985 with three primary objectives: to challenge the unfair trading practices of competitor countries, to encourage our trading partners to negotiate seriously on reform of world agricultural trade, and to regain overseas markets for U.S. agricultural commodities. These objectives relate directly to our negotiating strategy for the Uruguay Round of multilateral trade negotiations, and the program has contributed to the progress we have made thus far in the negotiations. It provides much needed leverage with our trading partners during these talks, and we should do everything we can to reinforce that leverage.

The program has also contributed to improved export performance for those commodities which have been eligible for EEP sales. Certainly, exports of both wheat and barley have benefited from the program.

Question: Are there other ways we can promote U.S. agricultural exports without compromising relations with our world trading partners?

Answer: The Department continues to search for more effective ways to expand U.S. agricultural exports. We are continually attempting to upgrade the work of the Foreign Agricultural Service staff in embassies and Agricultural Trade Offices around the world. We continue to expand our program of trade shows and exhibitions, as well as the sales contact and information services which are provided to U.S. agricultural exporters.

## QUESTIONS SUBMITTED BY SENATOR BUMPERS

### ATTRA PROJECT

Question: The Appropriate Technology Transfer for Rural Areas center for low-input ag information recently moved from Memphis to Fayetteville, Arkansas. The move was accomplished for programmatic reasons - namely, ATTRA is now near a land grant school, has access to an agricultural library, has access to research facilities and land, is able to cooperate with the national centers for Alternative Pest Control and Agricultural Law Research and Information, and is located in a state where low-input agriculture is endorsed and supported. However, the Extension Service has continued to harass ATTRA and NCAT because of the move. Now, sixteen professionals are located in Fayetteville, and they are in limbo because continued funding for the remainder of FY 89 is being threatened by ES. How can you resolve this problem so that FY 89 funds can be released in a timely manner? Will you assure me that Extension Service harassment of NCAT and ATTRA will cease? Why was the Stephen Dewhurst letter stating FY 89 ATTRA funds would not be held up because of the move to Fayetteville quashed by Peter Myers?

Answer: I have been assured by the Extension Service that all bills which have been presented for payment by the ATTRA program have been handled expeditiously. There is not a plan to delay the release of funds for this program, although these requests for payment must receive the same type of review that any other grant payment would receive. I will expect the Extension Service to continue to process these payment requests in a timely manner.

### RICE RESEARCH FACILITY

Question: Genetic research in rice over the last four years has led to a 20% increase in average yields. New varieties have become vital in response to the loss of pesticides used to control sheath blight, blast, and water weevils. Currently, the evaluation of rice germ plasm is being conducted in a totally inadequate facility at the Rice Research and Extension Center in Stuttgart, Arkansas, because the ARS center in Aberdeen, Idaho does not have the capability. Will you support the rice industry in working with this Subcommittee to develop a plan of action for getting ~~a~~ permanent facility established in Stuttgart, Arkansas, the heart of the U.S. rice growing industry?

Answer: I understand that ARS scientists at Stuttgart cooperate closely with the University of Arkansas and other ARS scientists at Aberdeen, Idaho in rice germplasm evaluation projects. ARS officials have assured me that the current facilities are not a constraint to progress in this area of research and that additional facilities would not enhance the research. In fact, new facilities for this work would result in additional lab capacity to be maintained and operated, further straining the Agency's budget.

## OUTLAYS OF FARM CREDIT ASSISTANCE CORPORATION

Question: During the Agriculture Appropriations conference last year, we adopted an amendment to provide a more fair assessment of Farm Credit Banks and associations to the FAC. The assessment is used to create a fund of first resort in case of default. Of course, the chance of default for the next seven years is nil according to OMB. Yet OMB is attempting to now claim that the bail-out is on-budget because of the conference agreement. Will you use your influence to encourage OMB not to force a showdown on this issue since the OMB decision is purely political and is not supported by substantive argument?

Answer: At the time the legislation to assist the Farm Credit System was being considered both OMB and CBO recognized an element of "self-help" was necessary in order to score the assistance off-budget. The assessment which amounted to $177 million, provided that element. Without it, the $4 billion in assistance that was authorized in the legislation could not be viewed as an off-budget non-federal activity.

The 1989 Appropriations Act changed the assessment such that the $177 million would be returned at the start of fiscal year 1990 and subsequent contributions by Farm Credit System institution would be based on a proportion of the amount of assistance actually made rather than up-front as the authorizing legislation had provided.

The 1990 budget includes a proposal to repeal the provision in the 1989 Appropriations Act that made this change. Under existing legislation, the 1990 budget includes an estimated net outlay effect of $652 million.

I support the 1990 budget proposal because it would preserve the element of "self-help" that was previously agreed to and continues to be a valid consideration.

## PREPAYMENT OF REA LOANS

Question: The Arkansas Electric Coop, a G and T in my state, has attempted to repay the U.S. Government over $100 million in outstanding loans from proceeds it received from the sale of a hydroelectric facility. The facility was constructed from internal funds of the AECC. No funds were borrowed. The AECC wants to retire $100 million in debt with these funds, and it does not want any replacement capital. In other words, The AECC is not seeking to refinance this debt with a federal guarantee. It just wants to give the money to the government in exchange for not being assessed a prepayment penalty that would amount to nearly $12 million. Do you support the AECC in their attempt to repay $100 million which we sorely need, and can you assist in getting the prepayment penalty waived?

Answer: REA and the Arkansas Electric Cooperative (AECC) have mutually agreed to permit AECC to use the net proceeds from the sale of these facilities to pay some short-term notes as they become due. Under this arrangement no penalties will be incurred.

## KIMZEY WATER DISTRIBUTION SYSTEM

Question: In the conference report for FY 89, the conferees requested that the FmHA fund the high-priority Kimzey Regional Water District project in Arkansas from national pool funds. How quickly will the FmHA act to fund the first phase of the Kimzey project once FY 89 water and sewer loan and grant funds are pooled?

Answer: FmHA officials in Arkansas are working with Kimzey officials on their application for financial assistance for the regional water distribution system. I understand the project has been divided into two parts, the eastern and western portions. Presently Kimzey and their engineer are working on final plans and cost estimates to construct the western portion. When these plans are completed FmHA will give further consideration to the application. I also understand that the amount of funds needed for this project by it self exceeds Arkansas' total annual allocation of water and waste disposal loan and grant funds. If the Arkansas FmHA officials request an additional allocation of funds for this project from the National Office reserve, it will be given expeditious consideration.

## FOREIGN CURRENCY RESEARCH PROGRAM

Question: The Office of International Cooperation and Development has been heavily involved in leveraging cooperative research overseas through the Foreign Currency Research Program in research areas such as genetics and virulent diseases. This is research which greatly benefits U.S. farmers, but is better conducted away from our production areas. This modestly funded program has been hamstrung on the use of foreign currency generated by P.L. 480 that is traditionally used to fund our share of the cooperative research because of the OMB requirement that these funds be appropriated. The State Department, on the other hand, has been granted unlimited use. Can you support an increase in the modest appropriation level?

Answer: The President's budget proposes to phase out this program along with all other special foreign currency programs, and we support those budget proposals.

Question: What is the rationale for the different treatment of these foreign currencies for use by the USDA and the State Department?

Answer: We are not aware of any difference in treatment between the State Department and OICD accounts. In order to use P.L. 480 generated currencies to meet embassy and related expenses abroad, it is our understanding that the Department of State must use its dollar appropriations to purchase these currencies. The transaction is handled through the Treasury Department, but P.L. 480 is credited with a receipt for the dollar equivalent of the foreign currencies which are purchased.

In recent years, these currencies have been generated through a provision in P.L. 480 Title I agreements which call for a Currency

Use Payment or CUP. Generally, a CUP provision is included in a P.L. 480 agreement for the purpose of meeting embassy operating expenses.

The Foreign Currency Research Program administered by OICD has primarily used excess currencies. These are currencies owned by the U.S. Government which are considered excess to normal requirements. The supply of these excess currencies has greatly diminished in recent years, with only one country remaining on the excess currency list. This accounts for the decision to phase out the special foreign currency programs.

Question: Will you pledge to pursue the elimination of the discrepancy in the treatment of foreign currency generated by P.L. 480 for use by the USDA and the State Department?

Answer: As was noted in the previous answer, we are not aware of any discrepancy in their budgetary treatment.

## CONSERVATION RESERVE PROGRAM

Question: To expand on our global warming discussion, I am very interested in increasing the target level on CRP land committed to tree planting. Do you support the establishment of a firm target for increasing tree planting on newly enrolled land? Do you support programs to increase such plantings on previously enrolled land?

Answer: Firm targets for tree planting are not recommended because participants are given the option to decide which cover use to apply to their retired acreage. If this flexibility were removed, that is if tree cover were required on all acreage, we feel that enrollment would decline drastically. Nevertheless, the Department does encourage tree planting on acreage already enrolled in the CRP and has undertaken three special initiatives to encourage tree planting on newly enrolled land. These initiatives are: (1) an interagency tree cover promotion campaign in those areas that have the potential to plant more trees on CRP acreage, (2) an expanded highly erodible land eligibility criteria targeted solely to those who are willing to plant trees on their acreage, and (3) new cropped wetland and scour erosion eligibility criteria that require tree planting where suitable.

## SWAMPBUSTER ENFORCEMENT

Question: On swampbuster, I am concerned that enforcement is lax because local committees have been allowed to use loose definitions of wetlands and have been allowed to accept loose dates on the commencement of conversion. Will you scrutinize this program? Will you allow for the review of questionable cases?

Answer: The Agricultural Conservation and Stabilization Service (ASCS) currently investigates any reported violation of swampbuster provisions through a visit to the site in question and through examination of site records. County ASCS personnel also conduct random spot checks of all producers requesting USDA program benefits and through this have identified possible violations. Operating procedures are also in place outlining the criteria for reviewing commenced conversions which are requests for conversion of wetlands begun before December 23, 1985. County ASCS offices must consult with the U.S. Fish and Wildlife Service on all of these requests, as well as third party determinations. The Deputy Administrator, State and County Operations, ASCS, reviews those cases in which the U.S. Fish and Wildlife Service questions the decisions made by State and county ASC committees on commenced conversions. In several instances, decisions have been reversed because the commencement conversion criteria had not been met.

## Questions Submitted by Senator Harkin

### LOW INCOME NUTRITION EDUCATION

Question: The Expanded Food and Nutrition Education Program (EFNEP) receives about $59 million annually. This budget calls for a reduction in federal expenditures for this program of about $37 million. Does this suggest a lower priority for nutrition education for low-income households?

Answer: This Department places a high priority on nutrition education, especially for the low-income and the needy. With matching contributions from non-federal sources and innovative strategies for delivering the program content, we anticipate that EFNEP will continue to be viable program.

Question: Part of this reduction is made by State contributions to the program. Can you tell us how much each State will be expected to contribute?

Answer: The States would be expected to match their share of the $21.6 million received from federal funds. (The information follows).

APPROPRIATION FOR PAYMENTS TO STATES

FOOD AND NUTRITION EDUCATION, FY 1990

| Smith-Lever Act: Section 3 (d) | Total Proposed FY 1990 |
|---|---|
| Alabama | $722,752 |
| Alaska | 61,792 |
| American Samoa | - - |
| Arizona | 197,872 |
| Arkansas | 460,313 |
| California | 1,130,993 |
| Colorado | 195,929 |
| Connecticut | 158,993 |
| Delaware | 79,289 |
| Florida | 720,809 |
| Georgia | 786,905 |
| Guam | - - |
| Hawaii | 92,897 |
| Idaho | 104,561 |

| | |
|---|---|
| Illinois | 757,745 |
| Indiana | 436,985 |
| Iowa | 332,009 |
| Kansas | 250,361 |
| Kentucky | 606,113 |
| Louisiana | 672,209 |
| Maine | 153,161 |
| Maryland | 300,905 |
| Massachusetts | 343,673 |
| Michigan | 643,049 |
| Micronesia | - - |
| Minnesota | 361,169 |
| Mississippi | 623,609 |
| Missouri | 563,345 |
| Montana | 106,505 |
| Nebraska | 195,929 |
| Nevada | 59,849 |
| New Hampshire | 85,121 |
| New Jersey | 374,777 |
| New Mexico | 180,377 |
| New York | 1,189,313 |
| North Carolina | 930,761 |
| North Dakota | 125,945 |
| Ohio | 788,849 |
| Oklahoma | 378,665 |
| Oregon | 172,601 |
| Pennsylvania | 973,529 |
| Puerto Rico | 415,601 |
| Rhode Island | 108,449 |
| South Carolina | 561,401 |
| South Dakota | 141,497 |
| Tennessee | 722,753 |
| Texas | 1,512,017 |
| Utah | 108,449 |
| Vermont | 85,121 |
| Virgin Islands | - - |
| Virginia | 617,777 |
| Washington | 238,697 |
| West Virginia | 357,281 |
| Wisconsin | 343,673 |
| Wyoming | 67,625 |
| No. Mariana Islands | - - |
| Total | $21,600,000 |

Question: There has been some concern expressed about the participation levels in EFNEP. Can you tell us how many participants the program had in 1980? In 1988? How many do you anticipate in 1990 under this budget proposal?

Answer: In 1980, 943,072 individuals participated in the program. These participants influence the diets of over 1 million family members. In 1988, 546,896 individuals participated. We estimate the number of participants to be over 400,000 in FY 1990.

Question: Last year I asked about the feasibility of using video tapes and VCRs in the training process in order to reduce costs. Can you tell me what efforts have been made in this regard?

Answer: I understand that states are using video tapes for training staff. Video tapes are used in conjunction with the paraprofessional teaching. A rapid proliferation of the use of video tapes is not expected because of lack of equipment and special learning requirements of the target audience.

Question: I noticed from the budget information that has been submitted that the future emphasis will be on urban areas and less on rural areas. Can you explain this logic?

Answer: The expectation that the EFNEP program, at this time, will be concentrated on populous areas does not mean that the program will be discontinued in rural areas. The nutrition needs of the potential audience in the rural and populous areas are very similar. It is assumed that rural counties with critical needs will continue to operate this program. To increase cost effectiveness, we will encourage States to develop rural strategies to focus on shorter term program assistance and to rotate nutrition resources to sites where the need is greatest.

Question: What will be the budget impact on my State of Iowa?

Answer: In 1990, Iowa would receive $332,000. The EFNEP allocation for Iowa would be reduced by $540,000 from 1989.

Question: Has Iowa made a commitment to provide the matching funds called for in the administration's budget proposal?

Answer: We have not asked for or required any of the States for a matching commitment at this time. If the budget proposal is enacted, this will be done through the Plan of Work process.

Question: What will happen if they are unable to fund this program at the level called for?

Answer: Extension Service has indicated to me that it is likely that most States are in a position to match these funds. Most States, including Iowa, have been providing some matching resources for the program, whether in-kind -- office space, telephone, etc -- or otherwise.

## SCHOOL LUNCH PROGRAM

Question: In your confirmation hearing you indicated some concern about terminating Section 4 funding for middle- and upper-income children because of the impact it might have on the whole school lunch program in general and lower-income students in particular. Could you elaborate on that and share with the Subcommittee any subsequent thinking you have had on the funding of the school lunch program?

Answer: As you know, in the Bush budget, we propose to fund the Child Nutrition Programs under current law. That means we propose to maintain section 4 subsidies.

At the same time, we know that there is concern in the Congress and there is certainly concern in the Administration with meeting the needs of those who are less fortunate with the limited resources available to us in the budget. To help assure that these needs are met, this Administration is willing to negotiate on the possibility--at least we do not want to rule out the possibility--that now it is time to reduce subsidies to the non needy. The neediest should be served first.

The subsidy-to-the-non-needy debate really centers around what people believe would happen if the subsidy were ended. We know that if neither the State nor the local government absorbs any of the cost, the average lunch price would increase about $0.28, from about $0.92 to $1.20. We also know that since paid meal families had a median income of $42,000 in 1987, the additional expenditure of less than $50 per year per child to continue to receive a nutritious program school lunch would not seem to be an obstacle to participation. Further, we know that when reimbursement rates were lowered in the past and schools dropped out of the program, few of those schools dropped out because of the lower reimbursement.

### CHILD NUTRITION PROGRAMS

Question: What is the current administration proposal relative to the funding of the Child Nutrition Programs?

Answer: The Bush administration proposes to fully fund the Chid Nutrition Programs under current law.

## QUESTIONS SUBMITTED BY SENATOR ADAMS

### EXPORT ENHANCEMENT PROGRAM

Question: Last year, the Agriculture Appropriations bill placed a limitation on the value of export bonuses awarded under the Export Enhancement Program. The Secretary's written testimony indicates the hope that such limitations will not be imposed in the future. What impact will this cap have on this program during FY 1989?

Answer: The most important consequence of this limitation is the unfortunate signal it sends to the European Community and other export subsidizing countries. We are concerned that this action may be taken as evidence that the United States is limited in its resolve to match their subsidies and to follow through on our strategy for achieving reform of the world agricultural trading system during the Uruguay Round negotiations. We need all the leverage we can muster for these negotiations over the next two years, and limitations of this nature hamper the full effectiveness of our strategy.

Question: What is the projected level of export bonuses to be awarded in FY 1990 if the cap is removed?

Answer: Budget assumptions for the Commodity Credit Corporation for FY 1990 assume that up to $1.0 billion of commodity certificates could be made available as EEP bonuses. We believe this estimate is still valid. During FY 1988, EEP bonuses of $992 million were awarded, so the $1.0 billion level projected for FY 1990 is consistent with the level of program activity in previous years.

Question: What type of message does the Department feel that Congress sends to the European Community (EC) when it places this type of limitation on the Export Enhancement Program?

Answer: It calls into question our resolve to follow through with our negotiating strategy during the Uruguay Round talks; it reduces our negotiating leverage when the Europeans know exactly to what degree we are willing to match their subsidizing practices; and it probably helps the Europeans plan their own export promotion and subsidy activities for the 1989/90 marketing year, with the United States having revealed our marketing intentions before the year even begins.

## PESTICIDE CLEARANCE GRANTS

Question: The initial Reagan budget included a $631,000 increase under the CSRS special grants program for the Pesticide Clearance (IR-4) Grant. Is this proposed increase supported by the Bush Administration?

Answer: Yes, this increase is supported by the Bush Administration, however, the increase does fall under the residual freeze portion of the Bush Budget and may be subject to negotiations with Congress.

Question: Has USDA made an assessment of the expected demand for pesticide clearance data, especially now that the EPA has begun its reregistration program?

Answer: I understand that preliminary assessments have begun. CSRS staff members have had discussions with IR-4 headquarters, IR-4 state liaison representatives, as well as with staff involved with the National Agricultural Pesticide Impact Assessment Program about the impact of reregistration on minor use crops. We are working for stronger coordination with EPA to assure an effective response from USDA, users groups, IR-4 and their cooperators.

Question: Is this increase going to be sufficient to meet the possible demand?

Answer: About one half of the proposed $631,000 increase would go toward updating laboratories for compliance with Good Laboratory Practices. The remainder of the proposed increase will support the registration process for minor use agricultural commodities. To meet these demands the research activities of the IR-4 program will be expanded to include additional field experiments and the resultant chemical analyses for residues. The anticipated demand for the reregistration process on minor use crops is great and the increased funding requested is an important step in addressing this need.

Question: Apart from the IR-4 program, are there other things USDA can do to assist minor crop pesticide users?

Answer: The National Agricultural Pesticide Impact Assessment Program provides a mechanism for management and coordination of USDA and State activities which promote informed regulatory decisions on registered agricultural pesticides including the reregistration process. We are working with EPA to develop better communications and action plans on this issue and to explore more effective ways to assure continued safe use of pesticides for minor crops undergoing reregistration.

Question: Can other USDA resources - grants, staff, access to laboratories - be temporarily made available at the local level?

Answer: In addition to the fiscal year 1989 Pesticide Clearance Special Research Grant, approximately $352,000 from Hatch Act regional research funds is supporting the IR-4 project. The Agricultural Research Service funding is $1,155,000 and the Animal and Plant Health Inspection Service is contributing about $30,000. Additional support is being provided from non-Federal sources for research being conducted at the State Agricultural Experiment Stations.

Question: What efforts are being made to inform pesticide users that the products they use are being reregistered, and may no longer be available?

Answer: IR-4 Headquarters publishes a newsletter entitled "Red Alert" specifically to notify the public of pesticide reregistrations. The mailing list numbers over 200 which includes grower organizations, IR-4 state liaison representatives, State Extension Services pesticide coordinators, and other interest groups or individuals. In turn, individual state contacts notify their clientele.

Question: Mr. Secretary, as you know, forestry is a very important industry in Washington State. I am concerned about the devastating impact that the Forest Service's Spotted Owl decision is having on the economies of rural Washington and the amount of time that these communities have had to prepare for the impact of these decisions. The most dramatic example is the current situation on the Olympic Peninsula where timber sales have been cut in half since last year.

What are your comments on this situation, and your suggestions regarding assistance to the communities undergoing these transitions? In addition, I would appreciate your predictions regarding the present plans for timber allocation statewide.

Answer: The Forest Service decision on spotted owl management involved a very extensive effort to utilize the best scientific information available to meet the legal obligations to preserve the species while minimizing the economic dislocations which result. As you know, the decision was appealed by parties concerned that the decision did not go far enough as well as by those who felt it went much too far. The issue is now in litigation.

Assuming that the courts let the Forest Service decision stand, we will try our best to implement the individual forest land management plans in a manner which preserves as many jobs as possible in the wood products industry. The timber sales allocations within the State of Washington should be consistent with the direction shown in the final land management plans for individual forests, although there could be significant disparities in any given year due to differences in funding levels, local market demand, fire and insect damage, and other variable factors. The plans were not developed in isolation. They respond to guidance in the regional plan and a state level analysis of cumulative effects on the industry.

## QUESTION SUBMITTED BY SENATOR FOWLER

### PREPAYMENT OF REA LOANS

Question: I understand that one of the hang-ups in not permitting additional prepayments of REA guaranteed loans without penalty may concern a controversy between REA and Treasury over a requirement that borrowers must refinance and transfer the federal guarantee to qualify under this provision. Such a provision would be expressly contrary to the legislative history of this provision.

Can you assure me that your regulations will conform to Congress' intent in this regard?

Answer: The regulations are currently being reviewed within the Administration. It is our intent to issue regulations which reflect the statutory language as well as the legislative history of this provision.

## QUESTIONS SUBMITTED BY SENATOR KERREY

### INDUSTRIAL USE CROPS ON SET-ASIDE ACRES

Question: In response to a question I raised to you at the Senate Agriculture Committee confirmation hearing, you indicated that you would authorize the planting of industrial use crops on set-aside acres if justifications presented can be accommodated within the statutory authority.

The provisions of the law which speak to this issue say: "... subject to such terms and conditions as the Secretary may prescribe...".

Please clarify for me exactly what "terms and conditions" the Secretary has prescribed. In particular, what types of justification materials must be presented along with a request for permission to plant non-program crops on set-aside acres.

On page 6 of your testimony you emphasize the need for rural areas to realize that economic security lies in diversification. In order to encourage and facilitate diversification of agriculture production into alternative and industrial use crops, it is essential for the Department to clarify exactly what "terms and conditions" must be met to qualify for eligibility to plant non-program crops on set-aside acres.

Answer: Under the provisions of the Agricultural Act of 1949, as amended, the Secretary of Agriculture may permit the production of certain crops on acreage designated as acreage conservation reserve--ACR. Such acreage may be devoted to sweet sorghum, haying and grazing, or the production of such non-program crops as gore, sesame, safflower, sunflower, castor beans, mustard seed, crambe, plantago ovato, flaxseed, triticale, rye, or other commodities if the Secretary determines that such production is necessary to provide an adequate supply of the commodity for which permission is being requested, will not increase the cost of the price support programs, and will not adversely affect farm income.

## CHILD NUTRITION PROGRAMS

Question: I note in your testimony it is stated that President Bush's budget withdraws the Reagan budget proposal to eliminate Child Nutrition Program subsidies for meals served to children from families with incomes over 185 percent of the poverty line. Would you please clarify for the record exactly which programs are affected by this revised budget proposal. In particular, does the Bush budget recommend full subsidy levels for all income categories in the school lunch, school breakfast, child care and summer feeding programs?

Answer: I would be happy to clarify this issue for the record.

The Bush budget proposes full funding for all Child Nutrition Programs under current law. This includes continuation of subsidies for meals served to all children from families with incomes over 185 percent of the poverty line, as well as those below, in the school lunch, school breakfast, child care feeding, and summer food service programs. In addition, we will continue to provide entitlement commodities at the full current law rate.

As I stated earlier, to help assure that the needs of less fortunate individuals are met, this Administration at least does not want to rule out the possibility, at least at this time, that we may have to look more closely at the real benefits America gets from these subsidies to the non needy.

## SPECIAL MILK PROGRAM SUBSIDIES

Question: Will the Bush budget also propose retaining the full subsidy for the half pints of milk served through the Special Milk Program to children from families with incomes over 185 per cent of poverty?

Answer: The Bush budget proposes retaining full subsidies for half pints of milk served to children from families with incomes at or below 130 percent of poverty, but does not propose funding milk for those above this income threshold.

## FUTURES AND OPTIONS MARKETING PILOT PROGRAM

Question: Section 1743 of the 1985 Farm Bill required the Secretary to establish a pilot program, utilizing CCC funds, under which participating producers in at least 40 counties would be assured that, by utilizing commodity futures and options, they would receive a return of no less than the county loan level for the commodity that is traded.

Despite the fact that thousands of farmers showed up for seminars explaining the program, just four have actually participated. In Nebraska, those who run the program have indicated to me that they believe the major reason farmers have not used the program is because the Department used its discretion to offer farmers price protection at the lowest possible level -- the county loan rate -- rather than some higher level, such as the target price.

We all have an interest in getting farmers to rely more on existing marketing tools, rather than Government payments, as a means of protecting their income. To this end, would you be willing to consider changing the program for 1989 so that farmers are assured a return that more accurately reflects the current price outlook for these commodities?

Answer: Participation in the pilot program could probably be increased by adding more participant benefits as you suggest. However, this would increase the Government's cost exposure and we would need to reduce expenditures elsewhere to offset this. A more cost effective approach may be to emphasize educational programs for producers, as well as to pursue economic studies of longer term potentials for greater reliance on the futures and options markets. The Economic Research Service is conducting such a study as required by Section 1742 of the Food Security Act of 1985. Once this study is completed later this year, we will be in a better position to determine appropriate actions for future operation of the pilot program.

Question: In regard to marketing and inspection programs your testimony indicates that the funding of activities in this area through user fees could be expanded. What are your specific proposals in this area?

Answer: Many of the activities carried out under the marketing and inspection programs provide direct benefits to the private sector and are funded by those who receive the benefits. The FY 1990 budget for the Agricultural Marketing Service proposes user fees to cover the costs of printing, postage, and handling of tobacco news reports, the standardization programs, and the Federal costs for administering the marketing agreements and orders program and accompanying economic and statistical analyses. The FY 1990 budget for the Animal and Plant Health Inspection Service proposes to charge fees to cover the cost of the Agricultural Quarantine Inspection (AQI) and Veterinary Diagonistics Programs. The AQI user fees would be consistent with the approach taken by U.S. Customs Service and the Immigration and Naturalization Service. It is a reasonable fee associated with activities to reduce the risk to agriculture associated with international passenger travel.

Question: Do you support the implementation of a user fee to fund meat inspection activities?

Answer: The FY 1990 budget does not propose the implementation of user fees to fund meat inspection activities.

Question: What is the Bush budget definition of a tax?

Answer: A tax is a receipt which is collected by the Internal Revenue Service.

Question: Does the definition of a tax, as in "no new taxes", exclude user fees?

Answer: The user fees proposed in the FY 1990 budget for marketing and inspection activities are not taxes. Under these proposals, those that directly benefit from the service provided will pay the fees. The level of the fee will be based on the cost to the government of providing the service.

### AGRICULTURE IN TRANSITION

Question: I agree with your statement that these are exciting times for agriculture -- provided that agriculture is prepared to seize the opportunities it faces on a range of issues.

I believe these issues include the development of industrial uses for farm commodities, more value-added processing here at home, increased emphasis on sustainable agriculture that maximizes income rather than yields, the continued competitiveness of U.S. Commodities in the international marketplace, and the need to ensure that Rural America enjoys the benefits of modern transportation and communications systems.

As the current transition in agriculture proceeds, will USDA, under your stewardship, be developing a comprehensive plan to guide agriculture so that it can successfully address the types of issues I have identified?

Answer: The Department will address the types of issues you raise, and others in the upcoming years as we work with Congress to plan and construct farm legislation for the 1990's, as we formulate annual budgets and as our program responsibilities are carried out by the various agencies of the Department.

---

## QUESTIONS SUBMITTED BY SENATOR MCCLURE

### ECP CONGRESSIONAL DIRECTIVE

Question: For the past two years, I have placed report language in the Senate and conference reports directing the USDA to use Emergency Conservation Program funds to aid farmers in drought stricken areas to extend wells and provide for temporary irrigation systems in areas where irrigation is a normal practice. The USDA has ignored this language. It is critical to farmers in Idaho that they receive this assistance and it will save the Federal Government drought disaster assistance payments well in excess of the cost of the ECP funds as the farmer will avoid drought losses. The amount of funding in the ECP program is capped by Congress each year, and I do not expect to request a transfer of funds beyond the amount in the bill, thus expenses would be limited to the amount in the appropriations bill. What will be your policy on following the Senate and conference report language on this and other issues?

Answer: Our policy is to make every effort to comply with Congressional directives. I am aware that a letter from the Department was sent to the House and Senate appropriations committees last December stating that this particular directive would not be implemented. The new Administration has not yet had the opportunity to review this issue, but I expect we will do so once our policy officials are in place.

### OFFICE OF ENERGY

Question: In following up on my statement on gasohol, I would like to know if you intend to replace personnel in the USDA's Office of Alternative Fuels? In the past, the reports from this office have not been favorable towards ethanol. I am very interected in knowing of your intentions concerning staffing this office.

Answer: I believe your question pertains to the Office of Energy. Decisions on staff office personnel will be based on our judgement of the quality of their staff work and not on whether their analysis supported preferred conclusions. In any case, we will not be making staff office personnel decisions until the concerned sub-cabinet appointees are in place.

## QUESTIONS SUBMITTED BY SENATOR KASTEN

Question: Secretary Yeutter, I am delighted to welcome you here today. Your unanimous confirmation by the Senate underlines the great expertise you bring to the Department of Agriculture. And you'll need that expertise as you face the difficult challenges of the Uruguay Round of Multilateral Trade Negotiations and the 1990 Farm bill.

As I mentioned in a letter that I wrote to you on February 24, I have some specific concerns about the future of agriculture that I would like the opportunity to sit down and discuss with you.

My own State of Wisconsin has more dairy farmers than any other state in the nation. These farmers are finding themselves in a steadily worsening environment as they try to compete with farmers from other regions of the country. The pressures they face are almost entirely government-created. As a 1988 GAO study on Milk Marketing Orders stated, "the federal milk marketing order system has contributed to the national milk surplus and benefited producers in some regions of the country at the expense of others. The justifications for federal marketing order pricing policies are outdated because dairy market conditions have changed."

I believe that milk marketing orders are the U.S. equivalent of regional trade tariffs. As someone who is committed to moving toward a market-orientation in agriculture, and who has seen the devastating impact of international trade barriers on the U.S. Economy, I would welcome your ideas on ways this situation can be corrected before the family farmers of Wisconsin are wiped out.

My second major concern is conservation. The Conservation Title of the 1985 Farm bill established the principle that we must not allow federal farm programs to subsidize abuse of the land. I was encouraged by President Bush's specific mention in his budget document of his intention to "vigorously implement and enforce" the Conservation Title. You have emphasized your commitment to conservation in your statement. This is an excellent start, because I believe this is an area which has not gotten in the past the special attention it deserves.

My third concern is water quality, especially groundwater. Again, I congratulate the Administration on proposing a Water Quality initiative. More and more Americans, farmers and non-farmers, are waking up to the reality of the fragility of both surface water and groundwater. Up until now water quality has been a subject for debate, discussion, and study. I am concerned that as a plan becomes reality we get the most bang for the buck with regard to both intra-departmental and inter-departmental implementation. I also would like to explore with you options to build legislatively upon this program.

Mr. Secretary, I wish you the best and look forward to working with you.

I am aware that you would like to postpone discussion of the 1990 Farm bill until after the Uruguay Round. However, the problem of marketing dairy products within the U.S. from the Mid-West perspective can be compared with trade barriers to U.S. products by other countries and I think you would agree these tariffs directly contribute to the federal deficit. The GAO Report on Milk Marketing Orders suggests solutions such as establishing new basing points and removing the barriers to reconstituted milk. Is USDA prepared to deal with these domestic trade barriers?

Answer: Yes. In addition to the GAO study of milk marketing orders to which you referred, the Department's Economic Research Service prepared a study for you and Senator Boschwitz from Minnesota. The ERS study analyzed the effects of alternative policies such as: (1) allowing reconstitution, (2) a single National milk marketing order, (3) eliminating classified pricing, (4) multiple basing points, (5) and lower support prices. As you know, the 43 milk marketing orders will be impacted in various ways by any changes.

I will review these studies in order to update my understanding of the milk marketing orders since the time I was Administrator of the Consumer and Marketing Service in the early 70's. Existing Executive Branch jurisdiction or authority may be insufficient to deal with the problems you describe. I will also examine what we might need in terms of new legislation.

Question: Would you be willing to consider exercising your authority to propose amendments to these milk marketing orders as a first-step towards a market economy in dairy?

Answer: It would be highly unusual for the Secretary of Agriculture to be a proponent for substantive amendments to milk marketing orders. We are charged with administering the orders which includes holding hearings for industry proponents regarding specific proposals. Based on the evidence provided at those hearings, the Administrator of the Agricultural Marketing Service publishes a recommended decision in the Federal Register. Additional comments are received, reviewed, and a final decision is rendered. A referendum by the affected producers is held. If it is affirmed, the Secretary publishes a final rule. This long and complicated process is directed by the Administrative Procedures Act. If there are proponents for the kinds of changes you have outlined, we are prepared to entertain hearings on their proposals.

## WATER QUALITY

Question: I am pleased that President Bush's budget contains a Water Quality Initiative, which you have noted in your opening statement. Up until now this has been a very paper-intensive effort but we are now forging ahead into implementation. The USDA portion of this initiative involves five departments.

Who will spearhead and coordinate this effort so the additional $47 million for this initiative is spent wisely and work is not duplicated?

Answer: I have not yet made a final decision as to who will be responsible for leadership in that particular area. In developing the initiative, coordination has been handled through the Assistant Secretary for Science and Education. As detailed plans are formulated, the need for specific directives or memoranda of understanding among agencies will be reviewed and those documents will be completed, as required. Coordination with programs of other Federal agencies is also underway, through specific agreements and meetings and conferences for the purpose of joint planning.

## ENFORCEMENT OF 1985 FARM BILL

Question: Another subject that you mention in your opening statement is the Conservation Title of the 1985 Farm Bill. Since the implementation of this Title by USDA, 335 producers have been determined ineligible under Sodbuster with a loss of benefits of $683,000 as of the end of 1988. With regard to Swampbuster, 343 producers have been determined ineligible for a loss of benefits of $544,000. Many of these cases are on appeal. There are also reports of spotty enforcement in various parts of the country.

In light of the data and the President's priorities, do you believe enforcement is adequate at this time?

(President Bush has committed himself to wetland preservation and specifically cites the Swampbuster provision in his budget proposal.)

**Answer:** ASCS is diligently administering the Swampbuster provisions of the legislation as intended by Congress. We believe that current regulations provide for adequate enforcement of the highly erodible land and wetland conservation provisions contained in the Food Security Act.

---

## QUESTIONS SUBMITTED BY SENATOR SPECTER

### MARKETING AND INSPECTION PROGRAMS

**Question:** Due to the increasing incidences of samonellosis in humans due to the bacteria of Salmonella enteritidis, the problems related to Salmonella have become a serious public health issue. This increased awareness surrounding the health issue threatens the stability of the egg-producing industry. In response to this growing public health issue, the Department designed a "three-part comprehensive plan" designed to control the spread of Salmonell Enteritidus. While the testing programs under the plan are voluntary, do you consider the plan successful or is a mandatory testing alternative a consideration?

**Answer:** Overall we believe the voluntary testing program has been successful. Most states have endorsed the model testing program and 21 states have implemented testing procedures. States where Salmonella enteritidis (Se) has been a problem are participating in the testing program.

**Question:** Secondly, I am interested in your views on the plan's participation at the state and local levels, the plan's impact on public health, the plan's impact on consumer confidence, and the status of the accelerated research program.

**Answer:** The Agricultural Research Service has refocused and increased its Se research effort and the Cooperative State Research Service has coordinated the research efforts of numerous land grant universities. Scientists are studying the transmission of Se infections, identification of Se within infected flocks, and methods to prevent contamination.

The Department continues to be committed to flock testing, research, and consumer education to control the spread and effect of Se on the public. Collectively, these activities represent an appropriate and effective response to restore consumer confidence in the Nation's egg supply.

### FEDERAL CROP INSURANCE CORPORATION

**Question:** The Federal Crop Insurance Corporation (FCIC) promotes agricultural stability by offering farmers crop insurance as protection against economic losses due to crop damage and destruction caused by nature. It is considered that the droughts in 1986 and 1988 have forced FCIC to compete with disaster relief legislation, resulting in lower participation rates. It is felt that drought legislation has created a perception that insurance is unnecessary when the federal government will provide financial assistance disaster strikes. How do you plan to make crop insurance a more useful product as a risk management tool to increase participation?

Answer: Since 1980 the crop insurance program has collected about $3 billion in total premium, including about $0.5 billion in premium subsidy, and has paid out $5 billion in indemnities. Administrative and operating costs during the period total about $1 billion. There is no reason for the program indemnities consistently to exceed premium. Rates and coverage need to be adjusted to achieve actuarial soundness. The agency is undertaking revisions in program procedures and rate making and we look forward to findings of the Commission established by legislation last year to recommend administrative and legislative changes needed to improve the crop insurance program. We do not intend crop insurance to be a welfare program.

Question: Rural water supplies and quality drinking water continue to be of concern across the nation. The Department of Agriculture, under Section 306 of the Consolidated Farm and Rural Development Act, is authorized to provide project grants in rural communities to address problems of water quality and waste disposal. Grants are used for water and waste disposal projects serving the most needy communities to alleviate health hazards and to meet national safe drinking water and clean water standards in rural areas. The Fiscal Year 1990 USDA budget proposes a decrease of 32 percent from the Fiscal Year 1989 budget. If the Department recognizes the growing concern for quality drinking water how does it justify such a decrease in funding?

Answer: The proposed reductions and changes in the programs are a direct result of the budget constraints faced by the Administration and the Congress. Even though these programs are considered priority programs, they were subject to reduction in order to meet the budget and deficit targets for 1990. Available funds will be targeted to areas demonstrating the most need. Public health considerations will receive the highest priority.

## COMMODITY CREDIT CORPORATION

Question: The Commodity Credit Corporation (CCC) principally exists to stabilize, support, and protect farm income and prices. The price support program is a method CCC uses to maintain dairy farm incomes, through the buying of excess market supplies of dairy products. Currently, how does USDA calculate for the cost of CCC purchases under the dairy program?

Wouldn't a system which shows net inventory increases or decreases (purchases less sales) rather than commodity purchases be a more accurate way of indicating actual cost to the government?

Answer: In effect, the dairy program budget figures reflect a net inventory situation. The poundage trigger which is used to determine whether the support rate should be changed each January 1 is the net removal figure. The milk equivalent poundage of products purchased is netted for sales of products by CCC. Likewise, the dollar outlay for purchases of products is netted for dollar sales receipts and reported as a net outlay.

## LOW INPUT RESEARCH

Question: The growing concern regarding environmental protection has resulted in increased awareness of "low input" or alternative agriculture practices. In 1985, Congress passed the Food Security Act, which included Agriculture Productivity research, setting the stage for an appropriation of $3.9 million for research on low-input farming systems for Fiscal Year 1988. This program was continued last year with a funding level of $4.45 million. The results of this spending is resulting in low-input technologies to reduce the farmer's dependence on large amounts of purchased inputs in ways that increase profits, reduce environmental hazards and ensure a more sustainable agriculture for generations to come.

If environmental protection and maintaining farmer profits is of a high priority to the Department, how do you justify a complete elimination of low-input funding in Fiscal Year 1990?

Answer: Environmental protection and maintaining farmer profitability definitely remain high priorities of the Department. The 1990 budget continues to fund over $170 million in research related to low input management practices as a part of ongoing programs. This and other research programs will continue to develop alternative management practices which can enhance producer profitability without sacrificing environmental quality. The water quality initiative which we are proposing for 1990 is specifically targeted to addressing priority issues involving the effects of agricultural practices on water quality. The plan is designed to focus research on priority concerns which are being identified through State planning efforts under the Clean Water Act of 1987. The Economic Research Service is involved in the planning and implementation of the program to assure the results do not sacrifice profitability. The approach is designed to encourage voluntary changes by farmers, based on new research and demonstration of those results, to allow water quality goals to be attained through producer changes, rather than regulatory actions which might adversely impact farm profitability.

---

## QUESTIONS SUBMITTED BY SENATOR GRASSLEY

### LOW INPUT RESEARCH

Question: The Department has been criticized by a number of groups for the mixed signals they have sent out on low input Agriculture Research. Under your direction, will the USDA look more favorably upon this type of research?

Answer: We will continue to focus our research programs on the development of solutions to problems faced by farm producers. To the extent that low input research can lead to improved farm management techniques, we will continue to support this type of research.

Question: Why was this item not included in the Department's budget?

Answer: Funding for low input agriculture research is included in the ongoing programs of ARS and non-earmarked funds for the universities at a level in excess of $170 million. Earmarked funds for low input research were not proposed, along with other designated programs of lower priority, in favor of support for programs to address high priority national needs in water quality, food safety, animal health and basic research support.

Question: Couldn't additional dollars for low input work have been included under the Department's Water Quality Initiative?

Answer: As part of a Presidential initiative, the Department's water quality initiative targets resources to solve specific concerns related to the relationship of agricultural practices to water quality. On the other hand, low input research programs cover a much broader range of topics not directly focused on water quality issues. The Department's water quality initiative is designed to address issues related to agricultural contributions to nonpoint source pollution which are being raised in connection with State planning efforts under the Clean Water Act. The initiative has been carefully planned to focus research, education and data gathering efforts directly on the top priority issues that must be solved to provide the basis for a voluntary solution to these agriculture related water quality issues. I believe a failure to focus clearly on these important issues immediately will compromise our ability to play a meaningful role in policy setting in this controversial area.

## AG DIVERSIFICATION

Question: What role do you foresee the Department playing in the effort toward diversification of agriculture? What effort is the Department making toward research and promotion in the area of aquaculture?

Answer: The Department will continue to play an important role as a provider of research results to support agricultural diversification. Research will explore new uses for traditional crops and new crops. We will continue to rely on authorities of the Technology Transfer Act to rapidly transfer new research results to the private sector for commercialization.

Regarding aquaculture, research is underway at Federal labs and through the universities to address a variety of problems faced by producers. Extension is involved in assisting producers with the adoption of new technologies in this area. We will continue to support these efforts.

## 1990 BUDGET FOR RURAL DEVELOPMENT

Question: Mr. Yeutter mentioned in his statement that the Department would continue to play a role in the development of small communities even though budget constraints would reduce current programs. I am interested in more specific details about the Department's rural development initiatives and where the cuts will be made in these programs.

Answer: Specifically, the Water and Waste Disposal loan program would be reduced from $330 million to $200 million in direct loans. In addition, there would be $50 million in guaranteed loans. The Water and Waste Disposal grant program would be reduced from $111 million to $75 million. The Community Facility program would be reduced from $96 million to $50 million and the program would be shifted from direct loans to guaranteed loans. No reduction is proposed for the guaranteed Business and Industry program, $96 million, or for the Rural Development Loan Fund, $14 million.

In addition, I am considering the appointment of a USDA task force to examine what steps can be taken to strengthen our rural development activities within the framework of the existing budget constraints.

## 1990 FARM BILL

Question: Knowing the discussion of the 1990 Farm Bill will include soil conservation, what assumptions is the Department making about changes in this title of the bill? What do you foresee as the budgetary impact of these changes?

Answer: The Department has assembled an interagency team to review the impacts of the conservation title of the 1985 Farm Bill and to conduct analysis on possible legislative changes for the 1990 Farm Bill. At this time, however, it is still premature to make any estimates on the budgetary impact of alternatives that will be studied.

## FmHA WATER AND SEWER PROGRAM

Question: The Department again this year has proposed cuts in the Farmers Home Administration Water and Sewer Loan program. Based on this action, I am wondering if the Department is aware of the needs of Communities affected by the drought and what efforts you are willing to make to help communities which have lost their water supplies due to the drought?

Answer: We are aware that many communities lost their water supply as a result of last summers drought. The lack of an adequate supply is one of the criteria that FmHA uses in selecting water and sewer projects for funding. Other criteria include targeting funds to low income communities. Demand for these funds is great and FmHA generally has more applications than they can fund. However, we will make every effort to ensure that funds are directed toward the highest priority needs.

## SUBCOMMITTEE RECESS

Senator **Kerrey**. This concludes the hearing. The subcommittee will meet again on the Tuesday, March 14, and review budgets for the Agricultural Research Service, the Cooperative State Research, and the Extension Service.

The committee now stands in recess.

[Whereupon, at 12:15 p.m., Wednesday, March 8, the subcommittee was recessed, to reconvene on Tuesday, March 14.]

# AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1990

---

TUESDAY, MARCH 14, 1989

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
*Washington, DC.*

The subcommittee met at 10:01 a.m., in room SD-124, Dirksen Senate Office Building, Hon. Quentin Burdick (chairman) presiding.

Present: Senators Burdick, Bumpers, Harkin, Adams, Fowler, Kerrey, McClure, Kasten, Specter, and Grassley.

## DEPARTMENT OF AGRICULTURE

### STATEMENT OF ORVILLE G. BENTLEY, ASSISTANT SECRETARY FOR SCIENCE AND EDUCATION

ACCOMPANIED BY:
ROBERT SHERMAN, BUDGET OFFICER
ROBERT LONG, DEPUTY ASSISTANT SECRETARY FOR SCIENCE AND EDUCATION

## AGRICULTURAL RESEARCH SERVICE

### STATEMENT OF R. DEAN PLOWMAN, ADMINISTRATOR

## COOPERATIVE STATE RESEARCH SERVICE

### STATEMENT OF JOHN PATRICK JORDAN, ADMINISTRATOR

## EXTENSION SERVICE

### STATEMENT OF MYRON D. JOHNSRUD, ADMINISTRATOR

### INTRODUCTION OF WITNESSES

Senator BURDICK. Good morning, ladies and gentlemen. This morning we continue our hearings in reviewing the 1990 budget for Agriculture, Rural Development and Related Agencies.

Today we will review research and extension programs at the Department of Agriculture. With us today we have Orville G. Bentley, Assistant Secretary for Science and Education; R. Dean Plowman, Administrator, Agricultural Research Service; John Patrick Jordan, Administrator, Cooperative State Research Service; Myron D. Johnsrud, Administrator, Extension Service; and Bob Sherman, Budget Officer, USDA. Welcome to the committee, gentlemen.

92-941 0 - 89 - 4

As a general overview, the budget for Agricultural Research Service programs is increased by $18 million, while a reduction of $10 million is requested for buildings and facilities.

The Cooperative State Research Service cuts far more than it increases for a net reduction of $20 million. And the Extension Service budget is cut by more than 10 percent—almost $36 million.

The witnesses have submitted statements on their respective budgets and they will be included in the record. We will hear from Assistant Secretary Bentley before proceeding to questions from subcommittee members.

### REMARKS OF DR. BENTLEY

Dr. **Bentley**. Mr. Chairman, thank you very much. We are pleased to be here this morning. I noted that you introduced the members of our staff here. Either I missed or I did not hear that Mr. Long, my Deputy, the Deputy Assistant Secretary for Science and Education is here beside me. You may have said that, but I did not catch it if you did.

Senator **Burdick**. Why do you not name them for the record.

Dr. **Bentley**. All right. On my left is Dr. Jordan of the Cooperative State Research Service, and immediately to my left is Dr. Johnsrud of the Extension Service. On my right I will start with Mr. Sherman on the far right, Dr. Plowman of the Agricultural Research Service, who is—really his first time to be with your committee. He has just taken over the responsibility for the administration of the Agricultural Research Service, a long-time member ot the staff, and we are delighted that he is with us, and then Mr. Bob Long, who is just to my immediate right.

Senator **Burdick**. Where did this fellow Johnsrud come from?

Dr. **Bentley**. Well, I was hoping you might ask, sir. North Dakota, and we are delighted to have him with us. The Dakotans are here in force with the five of us, so we are pleased about that.

If I may turn to the statement, Mr. Chairman, you have said that—well, all of our statements will be part of the record, and we are pleased to have that.

I would like to talk in terms of my presentation this morning—rather than get into the detailed statements of each of the materials that have been submitted on behalf of the agencies, I would rather give a broad overview of what the budget deals with and then give some reference to how those activities will be carried out, and I hope I can do that rather quickly.

First, I would like to mention a bit about the budget and how it was developed. It has come up as a result of a great deal of consultation within the various agencies and the interaction with their advisory committees and then it also does reflect the deliberation of the Joint Council for Food and Agricultural Sciences that the Congress established in 1977.

The reports from the committee we developed in terms of priorities for fiscal year 1990. Priorities for research extension and higher education is an annual report, and I am pleased to say, Mr. Chairman, that the recommendations for various initiatives by the agencies clearly reflect the recommendations of this advisory committee that, as you know, is made up of representatives from the

State Agricultural Experiment Stations, Extension Service, the teaching programs of our colleges, the Federal agencies, and people representing the industrial sector.

### WATER QUALITY

Now, to turn to some of the major issues, I think that if we would single in on one, we would begin with the effort on water quality. We look at this as a major initiative from the Department of Agriculture. It represents for all the agencies of the Department an increase of about $40 million for programs, the programs in the Soil Conservation Service as well as the research, forestry, and other agencies that are involved.

The part that deals primarily with the research agencies represents an increased allocation for this purpose of about $9.2 million at this time which, again, indicates the emphasis and the priority we are placing upon the work on water quality. This is dealing primarily with wells, et cetera, where waters involve the potential interaction with the soil and the water system, the underground water system.

The research has really been developed through a cooperative effort involving a study team led by people from several agencies and Mr. Long had a major role in serving as the chair for the committee that developed the plan for the Department of Agriculture.

In addition to that, the work of other agencies of the Government, such as the Environmental Protection Agency, the U.S. Geological Service, Fish and Wildlife Service, and other agencies that have a concern with the question about water, are involved in some joint planning activities on a Governmentwide basis, and we are proud of the contribution and the developed recommendations from the Department of Agriculture.

For example, there has been a publication just dealing with research. I think a copy has been made available to the committee. If you do not have this copy, we will get it to you.

The "USDA Research Plan for Water Quality" reflects the work being done by the Agricultural Research Service, the Cooperative State Research Service, and linking with the Extension Service as well. This document outlines the plans of what we have to do, what we hope to achieve.

This question is very important to agriculture because it helps to deal with the issue of nonpoint pollution, which is a concern that has to be addressed in the years ahead.

These questions come in part before agriculture because people who engage in agriculture ranging from food production to forestry are the ones who deal with the land and, of course, that is where some of the questions, the issues of nonpoint pollution arise.

### GLOBAL CHANGE

Turning very quickly to another topic is the question of global warming and climate change. One question is that the review of the data has not helped us come to a definitive answer, I do not think, relative to global warming. But it is a question of great concern to agriculture. Again, we have a cooperative effort within the Department to bring in the resources together so that we can determine what needs to be done and how best to proceed in the future to determine whether or not these changes that have been discussed and are predicted through some of the models are, in fact, the reality.

And we, again, are participating with other agencies of the Government for that purpose. One of the specific areas, though, has to do with the potential or anticipation of the problem of ozone destruction at the stratospheric level and with the resulting increase in penetration by the ultraviolet light into the Earth's surface and the possibility that it could affect crop production.

We have a special project in the Cooperative State Research Service and in the Agricultural Research Service that will be studying this issue.

### SUSTAINABLE AGRICULTURE

The question of sustainable agriculture is of importance to us, and we have initiatives within the Department which involve a great deal of cooperation and joint effort in developing programs here and in sharpening the focus of the already existing activities and research, that will find answers to help people decide about how they might apply this concept to their cropping and ranching operations.

### PESTICIDE PROGRAMS

The next issue that we would like to speak about is the continued emphasis that we have on pesticides and especially on the fate of pesticides in plants, the soil, and in the water system. We think that this is an area of growing importance because under FIFRA, EPA must review the already usable or already existing authorization for the use of pesticides. Agriculture has an important role here to determine the efficacy of these products and their role in agriculture.

We here are wanting to stress not only the research but how do we utilize such concepts as the IPM and our knowledge of the ecosystem to minimize pollution problems if they exist and to study the impact assessment on pesticides. There is an increase in the programs in the Extension Service for that purpose, and we think this is a very important area.

### GERMPLASM PRESERVATION

Another area that has continued to be supported in the budget of Agricultural Research Service, has to do with plant and animal germplasm preservation. This has been an important area and one that we think of with growing concern. We want to be sure that we can allocate the resources to this activity because of its importance to American agriculture, domestic agriculture, but also it is important in terms of the global control and involvement in the germplasm issues.

Part of the request in this year's budget is to complete the building for a seed storage laboratory in Colorado, one that was started last year in part, and we want to be sure that we finish this because this is a much-needed facility for the Agricultural Research Service.

## NEW USES FOR AGRICULTURAL PRODUCTS

Another area that is getting a lot of attention, and deservedly so, is alternative or new uses for agricultural products. There has been a substantial program in the laboratories of the ARS and in the State Agricultural Experiment Stations, looking for new uses for understanding and using that knowledge to find ways of getting nonfood uses particularly from our agricultural production. Some of the crops that are being looked at are kenaf for fiber, winter rapeseed and crambe for erucic acid, specialty oils, starch products from corn, oil products from soybeans, and aquaculture.

We are noting an increased concern about food safety and most reviews will suggest that consumers raise a number of questions on food safety. This is one of the areas that we are hoping to expand, not only to find answers to questions about potential contaminants, but also to be supportive of the regulatory agencies of the Department of Agriculture primarily FSIS and APHIS that have to do with looking at in the case of FSIS, with food, meat and dairy, meat and egg products as well as in terms of the regulation of the movement of crops and animals in and out of the United States and across State boundaries.

## COMPETITIVE RESEARCH GRANTS

The Competitive Research Grants Program is an important part of the Cooperative State Research Service Program. We have requested increased support in the fields of animal sciences, animal diseases, human nutrition, plant sciences, and other activities that we think are important to the understanding of some of the basic phenomena that are important to agricultural production, food processing, and improving the quality of products to the consumer.

## HIGHER EDUCATION

In higher education we have two initiatives that I would like to mention. One is increased support for our traditionally black universities, the 1890 institutions and Tuskegee Institute. There is a proposal for $11 million to strengthen the overall capacity of these universities. It is interesting to note that 1990 will be the 100th anniversary of the founding of these institutions, and it is appropriate that additional funding be made available to strengthen the capacity of these institutions to provide new graduates and to expand the manpower pool in the scientific area as well as in the support of the infrastructure.

In addition, there is funding for the graduate fellowships program and for a new Institutions Challenge Grants Program to improve the capacity or the quality of instruction in our universities. We think those two programs are very important.

## NATIONAL AGRICULTURAL LIBRARY

I have not mentioned so far the National Agricultural Library. Here again we are looking for increased funding to support the development of data bases and other kinds of information, storage and retrieval that will strengthen our research, extension, and teaching programs in agriculture and forestry and the food industry. There is much innovation taking place that I think is very important.

## EXTENSION SERVICE

Finally, I want to make some comments about the Extension Service program. I am proud of the leadership that has been provided to the Extension Service, not only the Federal agency here in Washington but within the States. They are focusing on major initiatives that will address some of the top questions that face Americans in rural areas of this country. Important areas include water quality, economic competitiveness and agricultural systems, alternative cropping methods, increased efficiencies in not only the inputs, such as pesticides or fertilizer, but dealing with some of the impacts of these uses upon the environment.

One can say a great deal about those activities. However, I do want to mention that there is concern about youth at risk and of the application of the educational programs that has been so successful through the 4-H activities and other programs for youth to help meet some of the emerging problems that young people are facing in the United States today.

I also made reference to the Pesticide Impact Assessment Program that is part of the Extension Service. I would also be remiss if I did not mention, Mr. Chairman, and say how pleased we are to see that the Senators introduced a resolution denoting the 75th anniversary of the Extension Service in the United States, and I thank you for this support. This is a significant anniversary, and we are pleased that it will be noted by the Congress.

I had said at the outset that I would try to touch on some high points of our budget presentation. We hope that it addresses some of the major issues of the times, touches upon them and relates them to the specific budgets of each of the agencies that are represented here today. I have not gone into detail and I am sure just by touching a few highlights it does not do justice to some of the recommendations they have, but it does give an oversight and a feel for the budget that we are pleased to present to you for your consideration. Thank you very much.

## PREPARED STATEMENTS

Senator **Burdick**. Thank you. Your complete statement, along with those of the other witnesses, will be inserted in the record.

[The statements follow:]

### Statement of Dr. Orville G. Bentley

Mr. Chairman and members of the Committee, I appreciate this opportunity to appear before you to present the 1990 budget for the Department's research and education programs. Within a total funding level only slightly below 1989, we have funded important ongoing programs and have provided support for new initiatives in water quality, higher education, food safety and a renewed commitment to the historically black land-grant institutions. I won't pretend that we have addressed every issue facing our farmers and ranchers, but I am confident that we have a solid plan that targets research and education support to the most urgent issues and supports the science base and the institutions which will be crucial as we face ever more complex issues in the future. Before I identify the top priorities as I see them, I want to take just a moment to introduce to the Committee Dr. Dean Plowman, the Administrator of the Agricultural Research Service. Dean comes to ARS with a strong background in research and management, both in ARS and the university system. He will be available to provide details of some of the important issues facing ARS.

### WATER QUALITY

Certainly, one of the most widely discussed issues currently facing agriculture is the potential for adverse effects on the environment as a result of crop and livestock production activities. It is a complex issue, with implications well beyond the farm gate. It is also a controversial matter and we need to recognize the importance of informed public policy decision-making to the economic vitality of the agricultural sector. We believe the Department can make major contributions to public policy in this area and we are pleased that this initiative has been identified as a priority of the new Administration.

Over the past year, we have conducted an intensive review of the current state of knowledge in this area. Through a careful planning process, involving the research, education and technical assistance agencies of USDA, our State partners, and other Federal agencies with interest and expertise in this area, we have developed a plan which will coordinate the talents of Federal and university scientists in a comprehensive, systems approach to addressing this complex issue. Research will focus on overcoming some of the impediments to progress in this area, such as the lack of reliable, economical sampling techniques and will also target the development of new management systems for corn and soybean production in the Midwest. In addition, work in other major agricultural production regions will be started through the universities.

Mr. Chairman, we realize that time is short and we cannot wait until we have all of the answers to begin to provide assistance to farmers. It is on this premise that we have developed a plan which includes a research component as well as an immediate program of targeted education and technical assistance. Through a program of demonstration projects, new management practices will be demonstrated directly to producers, providing a forum for immediate knowledge transfer. Extension Service will be working very closely with the Soil Conservation Service to update field level technical guides used by conservationists in delivering assistance to farmers.

In addition to coordination within USDA, we will be working closely with other Federal departments and agencies with water quality responsibilities. As part of the governmentwide initiative, increased funding at the U.S. Geological Survey will enhance ongoing programs to accurately measure and monitor water quality. Commerce Department programs will monitor effects of agricultural run-off on coastal and inland waterways. The Environmental Protection Agency will work through state agencies to assist in addressing nonpoint source pollution.

As you can see, the approach which we propose is a voluntary solution—one which allows farmers and ranchers to make appropriate, informed decisions as stewards of the land—instead of a regulatory approach which would reduce the options available to those who produce our food and fiber. Mr. Chairman, I sincerely hope that the Committee will support the approach we propose and I will assure you that we are ready to provide whatever additional information you may require to fully evaluate this request. This program builds on the research efforts initiated during 1989 with the support of this Committee. In total, we propose an increase of over $40 million for research, education and technical assistance programs in water quality.

### PESTICIDE PROGRAMS

Closely related to our water quality initiative are research and extension programs which seek to develop and transfer appropriate strategies to manage chemical use in control of pests. We are proposing continued designated funding for integrated pest management and pesticide impact assessment projects. Ongoing research and extension efforts in biological control will also be continued.

### STATE OF OUR SCIENCE BASE

Let me turn to a broader issue—that of the status of our storehouse of fundamental scientific knowledge in plant and animal sciences. Mr. Chairman, it is the strength of this science base that allows us to respond quickly to immediate and emerging problems faced by producers. Over the years, we have developed this base, through a variety of programs and the efforts of Federal, state and other scientists. Many of the incremental advances in our understanding of biological systems have been of immediate interest to the scientific community, sometimes without a clear link to on-farm problems. It is critical that we continue to advance the knowledge that forms that base, or we are soon without the basic knowledge required to solve problems. Some examples of our reliance on this science base include:

- Years of research on behavior and growth helped scientists understand the mechanisms that control parasitic behavior of a biocontrol agent which is now being improved for use against the cotton bollworm.
- Basic research on enzymes will yield information which will allow scientists to develop plants which bind heavy metals or other toxics in non-edible tissues rather than parts eaten by humans or livestock.
- A bottleneck in applying biotechnology is the lack of understanding of plant metabolism and biochemistry. Understanding is required in this fundamental area to provide the basis for significant improvements in yield and quality factors.

These are just a few examples of some very fundamental research providing the basis for practical applications. This wealth of knowledge has emanated from the base-funded programs at the universities and the Federal labs. Our highly successful competitive grants program has also been a major contributor of basic research by focusing the most talented researchers on the needs of agriculture. Unfortunately, funding for competitive grants has lost almost 25 percent in real terms since 1985, making it increasingly difficult to adequately support high caliber research on the cutting edge. Indeed, recent funding levels only provide partial support for one-fourth of the meritorious proposals received.

Our 1990 proposals recognize the need to strengthen our fundamental research programs, with continued support for base programs at Federal and university labs and a major increase in the competitive grants program. Competitive programs in plant science, animal health, human nutrition and biotechnology would all receive increases. We are also proposing a program to support multidisciplinary plant science research through plant science centers and a program of forestry competitive grants. Effects on agriculture resulting from global climate change remains a high priority and we propose a doubling of the competitive program initiated in 1989. Research will continue to focus on the impacts of increased ultraviolet light on basic plant functions. I strongly urge your support for this important work.

## HUMAN CAPITAL DEVELOPMENT

As Secretary Yeutter recently noted, education is the antidote for poverty. In his confirmation hearing, he listed some of our strengths in international competitiveness—technology, innovation, entrepreneurship, creativity—and noted that education is the foundation of all of them. Unfortunately, trends indicate a shortage of scientific and engineering personnel in coming years. Trends in minority enrollment in higher education programs, particularly in the agriculture and natural resources sciences, are dismal. Compounding the concern is the fact that many researchers in the Federal and State system are at or near retirement age. We cannot sit on the sidelines and hope that the situation will change.

Mr. Chairman, I am pleased about the higher education programs we are proposing for 1990. Two new programs to strengthen and revitalize our higher education system in the food and agriculture sciences are proposed under the leadership of the Cooperative State Research Service. At the center is an $11 million program of competitively awarded grants to build the capacity of the historically black 1890 land-grant institutions to recruit, train and graduate high quality students. This program is in concert with other recommendations of a joint 1890's-USDA Task Force which is reviewing means to enhance the ability of these schools to participate in National interest research, extension and teaching programs. Matching funds from nonfederal sources will be a requirement to receive the grants.

There is a broad need to strengthen the programs at the Nation's colleges of agriculture and natural sciences which produce scientists and other professionals with food and agricultural expertise. In support of this need, we are proposing a challenge grants program to fund the most meritorious proposals to revitalize curricula, encourage faculty development, support instrumentation and improve student recruitment and retention in agriculture programs. This program also includes a requirement for matching funds from nonfederal sources. Finally, we are requesting continued funding for the highly successful graduate fellowships program. We are confident that this comprehensive proposal will prove to be an effective approach to strengthening the food and agricultural sciences higher education system to produce the outstanding scientists and professionals crucial to a competitive agriculture sector.

### RESEARCH INFRASTRUCTURE

Even if we are able to assemble all of the human talent we need, research progress will be impaired if the physical support structure is deficient. As scientists develop ever more precise research techniques, the inadequacy of our facilities and equipment becomes clearer. Research techniques have changed dramatically in agriculture, just as in other areas of science. Broad application of advanced molecular biology techniques to research requires ultraclean, carefully controlled environments. Use of multidisciplinary research approaches can best function when the lab environment is structured in a flexible manner to allow interactions among varied disciplines, but yet each individual needs the unique facilities and equipment to conduct experiments in his discipline. As many members of the Committee are aware, much of the research laboratory space available to researchers was constructed before 1960. These facilities are simply not adequate to support the research programs which will provide solutions to identified National issues in agriculture.

ARS has been reviewing priority facility needs in concert with a review of program plans and directions. Funds for the top priorities are proposed in the 1990 budget. We have previously testified to this Committee regarding the critical need for expanded and updated facilities at the National Seed Storage Lab; we are requesting funds to complete that project. Funds are also requested to continue the major modernization of the Beltsville Research Center, on the basis of detailed planning now underway. We appreciate the past support for this work on the part of the Committee. Finally, funds are proposed for a modest addition to the poultry disease research facility in Athens, Georgia which will capitalize on existing support capabilities at the lab. Dr. Plowman will be available to provide additional details of facility and equipment needs.

### PLANT GENOME MAPPING

With the support of this Committee, we have significantly strengthened our plant germplasm system to better assure the availability of a diversity of traits for use by breeders in developing new crop plants. Many of these new varieties incorporate pest or disease resistance and thereby reduce the use of costly and potentially harmful inputs. Mr. Chairman, I want to highlight for the Committee a modest proposal which has the promise of significantly enhancing the ability of scientists to utilize our germplasm resources to develop beneficial new plant varieties. The proposal is a new program to begin planning a joint effort with the land-grant universities to map gene sequences of important crop plants. This will be crucial to our ability to quickly meet challenges of climate stress, insect and disease problems and the needs of farmers to lower costs in response to international competitive challenges. ARS will assume leadership of the project with close coordination and participation of the university system.

### EXTENSION PRIORITIES

A continuing challenge we face is that of synthesizing the great amount of research and packaging that knowledge into a useful form to allow ready adoption by producers. The extension system has served this need well over the years, but the demands of highly advanced technologies dictate the use of new approaches. Mr. Chairman, the extension system has recognized the need to update its programs and focus very sharply on the highest national priorities, yet remain flexible to respond quickly to immediate issues, such as the drought. We have previously reported to the Committee the ongoing process of priority identification and program development. Extension is now at a critical juncture in proceeding with the implementation of these programs. There is a need for flexible funding to support the efforts of States in developing innovative new programs to address these priorities. We request your support of our proposal for a modest program in this area, to support the most meritorious projects.

In the related area of information transfer, I would like to note that the National Agricultural Library has been cooperating closely with Extension and the research agencies to develop new information products in topics receiving priority attention. Efforts include joint programs to provide information centers in rural development, technology transfer and, for 1990, water quality and quantity.

### CLOSING REMARKS

Finally, Mr. Chairman, there are a number of programs which we continue to emphasize, although I have not specifically mentioned them. Research to develop new uses for surplus crops and entirely new crops and enterprises, such as aquaculture, remains a priority. Secretary Yeutter has stated his commitment to pursue opportunities in this area. Development and transfer to farmers of low input/sustainable management systems remains an important component of our research and extension programs, with related research expected to exceed $175 million in 1989. We will continue to evaluate opportunities in these areas as program plans and budgets are formulated.

In closing, I would like to thank the Committee for its strong support for research, extension and teaching programs which are vital to the future vitality of the Nation's agriculture sector. We are proposing a budget which is sharply focused on the highest priorities identified by scientists, producers, consumers and the Congress. We recognize that our proposals do not fund all of the projects with merit, but we firmly believe that our budget provides the resources to address the top National priorities and will support the foundations—the science base, the higher education system and the physical research facilities—on which all future advances will rely.

---

## STATEMENT OF DR. R. DEAN PLOWMAN

### FIRST REPORT TO CONGRESS

Mr. Chairman, as you know this is my first appearance before this Committee as Administrator of the Agricultural Research Service—ARS. It is an honor to be here, and I look forward to working with you, with members of this Committee, and with other members of Congress.

Mr. Chairman, I am aware that your Committee has vast knowledge of agricultural research. I recognize also that for several years, you, personally, have provided oversight, guidance, and support for a wide array of agricultural research in Federal and university laboratories throughout the United States. Nevertheless, I hope that you will regard my report to you with more than routine interest. My report conveys the perspective I have gained through nearly three decades with the Agricultural Research Service and 4 years as a professor and Department Head at a Land-Grant University.

Mr. Chairman, before I give this Committee information on the President's budget recommendations for fiscal year 1990, I want to offer a few comments about the research climate that exists today.

This is a time of intellectual ferment. New ideas have been advanced for changing the way that agricultural research is conducted in the United States. These changes are intended to raise the overall quality of research and to increase funding for this vital enterprise. The new initiatives are very important, but it is equally important to retain and strengthen the best aspects of the research system that is now in place—a system that long experience has shown to be effective and excellent.

Mr. Chairman, since becoming Administrator last summer, I have been busy reviewing the Agricultural Research Service's research programs, management processes, and overall operations. At the very outset, I asked 100 of the Agency's top scientists and managers for their ideas on how to strengthen our research effort. I found that, although there were some minimum concerns, the Agricultural Research Service is fundamentally sound. The Agency is capable of responding effectively to near-term challenges and laying the foundations for dealing with long-range imperatives.

After careful study, I implemented several management initiatives, that are—in the main—fine tunings in our operating procedures and management processes. Through these initiatives, it is my goal to forge closer links between our top managers and our leading scientists to ensure that the research remains targeted and coordinated. I intend further to remove bureaucratic roadblocks to initiative and productivity. In making these adjustments, I have attempted to strengthen accountability, not only for dollars, but also for progress in solving the most important agricultural problems.

I want to assure you that our basic operating principles remain intact. Under my leadership, this Agency will continue to:

- Focus on the problems facing the producers and consumers of agricultural products;
- Cooperate with industry, Congress, and others in identifying and setting priorities among emerging problems;

- Pursue effective relations and cooperation with universities and land-grant institutions;
- Provide, from the national level, location-specific program direction; and
- Maintain, at the national level, responsibility for program management and accountability of resources authorized by the Congress.

## PROGRAM DIRECTION

I have asked our ARS National Program Staff at Beltsville to take a fresh look at long-term program planning. The staff is well along in that effort now. They are considering factors that will influence program direction as we close out this century: food quality and safety; environmental quality, including the quality of land and water resources; domestic versus foreign demand for American agricultural products; proper program balance; long-range needs versus short-term needs; and others.

More specifically:

- In the environmental arena, agricultural research will focus on new knowledge and technology to prevent contamination of ground water, to assess the fate and transport of agricultural chemicals in soils. Also, in the environmental arena, we need to develop a better understanding of the processes that influence global climate. Knowledge about earth system processes is rudimentary and substantial research will be necessary to discover ways for agriculture and natural resources to cope with the changes in global climate that some think will occur.
- Food safety research will be focused on reducing bacterial and pesticide residues in meat, poultry, and dairy products, and on improving ways to diagnose animal diseases.
- To make our products more competitive in international trade, ways must be found to decrease production costs, create new products, and develop new markets.
- Intensified research will be required to discover economical processes to convert agricultural products to industrial and other uses.

In these and other activities, ARS will continue to provide research support for many Federal agencies. These include the action and regulatory agencies within the Department of Agriculture (such as the Animal and Plant Health Inspection Service, Food Safety and Inspection Service, Federal Grain Inspection Service, Agricultural Marketing Service, Soil Conservation Service, Office of Transportation, and Foreign Agricultural Service). USDA scientists have an important role to play in support of the Environmental Protection Agency and Food and Drug Administration in identifying problems and their solutions as those agencies work to protect our environment and assure the safety of our food supply.

## MAJOR CONCERNS

Now, let us turn our attention to five major concerns that face ARS and must be overcome if we are to successfully meet our short- and long-term research responsibilities.

*The Need for Modern Facilities and Equipment.* The first of these concerns is the need to provide our scientists with the state-of-the-art facilities and equipment they need. Many of our laboratories are old and outmoded. Funds available for renovation and modernization in recent years have been limited, and we have used them primarily for immediate, but routine repair and maintenance needs.

In 1985, ARS managers recognized the need to make major improvements at many of our locations and at that time, a multi-year plan to modify these facilities was initiated. Funds for this program came from existing repair and maintenance authorizations and temporary diversion of program funds from the bench. Slowly, progress is being made but we need to speed up the process and work needs to be done on most of our locations.

A comprehensive inventory of modification needs at all ARS facilities has just been completed in tandem with the program direction update mentioned earlier. We are aware that the need to update our facilities is, in fact, a major concern that we will be addressing in the years ahead.

Equally important is the need to provide adequate instrumentation for our scientists. We must find ways to obtain, maintain, and replace the scientific and analytical instrumentation that are needed to conduct research in the biological sciences over the next 20 to 30 years. Currently, principal investigators say that their primary need is to replace equipment bought 10 to 15 years ago, and that the need to repair, maintain, and update existing equipment is next in priority. Funding support at the operating level has not kept pace with the increased costs of maintaining and repairing outdated equipment.

Adequate instrumentation is unequivocally linked to success in science. The inability to obtain and maintain equipment closes off inquiry, and it will ultimately prevent researchers from working at the cutting edge of science.

Funding to support modernization of facilities and updating our equipment must receive priority attention in the years ahead.

*The Need for Long-Term Funding Support.* Another concern, both for ARS and the State Agricultural Experiment Stations, is the need for reliable, annually recurring funding support for long-term, problem-solving research projects. A fundamental axiom of problem-solving research is that the momentum of high-quality research thrusts must not be interrupted. Effective programs and networks of scientists are assembled with great difficulty and, once dismantled, can rarely be reassembled.

Funding support for short-term grant-funded research has increased in recent years, and the trend toward increased funding for individual grants seems to be gaining momentum. This movement is fueled by the frustration felt by the research community in the erosion of base funding in real terms.

I am strongly convinced that funding support for competitive meritorious proposals from the research community is a vitally important adjunct to reliable base funding. These programs build on base-funded programs in Federal and university laboratories. None of our great universities gained preeminence in the absence of stable funding to employ outstanding faculty in tenured positions. Nor is it reasonable to expect that the best and brightest scientists would remain with ARS in the absence of adequate levels of assured funding.

At levels proposed in the budget, competitive grants provide strong support in critical areas by enabling a distinguished scientist to employ temporary postdoctoral associates and to train graduate students. Bright and energetic young scientists bring new techniques and vitality to a laboratory.

Therefore, I recommend that funding support for competitive grants should grow with an accompanying commitment to reliable base funding. Such a commitment would assure that we can continue to undertake problem-oriented, long-term programs. Levels proposed for 1990 assure continued base-funded programs while at the same time strengthening competitive programs to levels which will provide funds to support additional meritorious projects which must be declined at current funding levels.

*The Need to Support Long-Range Programs.* Another concern, now and in the future, is the need to find ways to adequately support long-term research programs that are significant and critical to American agriculture but that fall outside today's highest priority needs, as determined by high level public interest. Economic constraints in recent years have not provided the means to fund many of these programs because increased budget support has been limited to a select few priority areas. In fact, support has eroded for most of our programs because of unfunded salary costs, reductions in general appropriations, and pro-rata reductions induced by Gramm-Rudman-Hollings.

ARS managers have provided maintenance support for the most important programs by selectively terminating certain programs and consolidating where possible. Since 1983 alone, we have terminated research at 19 locations and work sites, with the support of this Committee. I would be remiss if I did not point out that further operating fund absorptions or reductions would result in curtailment of additional high priority research activities. There are no other alternatives.

*The Need to Stop the Erosion of Our Scientific Base.* The twenty-first century will soon confront us with yet another concern, that of sustaining our historic level of scientific knowledge. The Nation's colleges of agriculture and natural resources are the principal source of scientists and professionals with food and agricultural expertise. Yet they are losing ground to a multitude of problems. Efforts must be taken to revitalize educational programs responsible for the development of future generations of food and agricultural scientists and professionals.

Currently, to help identify and retain skilled scientists, the ARS Research Associates Program places scientists with particular skills in our laboratories to work on priority programs. We aim to bring on board 100 qualified scientists every year, for two-year appointments each.

The Cooperative State Research Service has proposed in its budget an expanded program to help the 1890 Land-Grant Institutions and Tuskegee University recruit and graduate high-quality students in the agricultural and natural resource sciences. This program would certainly help increase the pool of available talent. It would provide for grants to encourage these institutions to modernize programs in agriculture in cooperation with State, private, and Federal partners. This program will pay off in the long term.

*The Need to Transfer Technology to the Private Sector.* The last concern I want to discuss today is the need to transfer our technology in a timely manner. We must continue to ensure that our research responds to specific problems so our findings can be integrated into the management systems of farmers, agribusinesses, industries, and other users. Moreover, transfer activities must continue to provide a route for feedback from users to researchers. Feedback indicates not only whether the integration of new technology into user operations has increased efficiency, but also identifies users' needs for additional technology. The function of technology transfer—the dissemination of research findings to the public—must remain the culmination of research.

We will be concentrating our efforts to meet these challenges, Mr. Chairman. We ask for your continued support.

## FISCAL YEAR 1990 BUDGET RECOMMENDATIONS

I turn now to a discussion of the President's fiscal year 1990 budget for our Agency. We are pleased with decisions reached within the Administration this year to continue support for our ongoing programs and to provide additional support in crucial areas. The budget recommendation for ARS programs is $581,118,000. This is about a 3 percent increase over the current fiscal year.

The budget recommends increased funding of $10 million for the USDA inhouse research component of a coordinated, Government-wide initiative in water quality research, data gathering, and education to address agricultural and other nonpoint source pollution. ARS will provide leadership in the research effort and focus on the development of economically feasible crop production systems to minimize adverse impacts on water quality and on the development of improved testing methodologies to sample soil and water for agriculture-related contaminants. This research is being jointly planned and conducted with our university partners and will utilize a systems approach to assure full consideration of all components of the issue. Education and technical assistance providers will be involved to assure rapid transfer of new technologies to farmers.

The budget also calls for an increase of $4,700,000 for research to reduce bacterial contamination and pesticide residues in meat, poultry, and dairy products. We will expand research on Salmonella and other food-borne pathogenic organisms that can multiply and cause severe gastrointestinal distress and result in hospitalization and even death. This research will support the high priority needs of the Agricultural Marketing Service and the Food Safety and Inspection Service.

The budget provides $3,000,000 in additional support for research on ways to diagnose diseases of livestock and poultry. Diagnosis, control, and eradication of diseases reduce costs of production, enhance U.S. exports, and improve the health and safety of the American food supply. This research is in direct response to the priority needs of the Animal and Plant Health Inspection Service.

The ARS research program to reduce bacterial contamination in meat animals is strengthened by a budget increase of $1,400,000. Contamination with Salmonella is a major concern in milk, meat, and eggs. Research in this program is directed to develop improved means for control of hazardous bacteria in animals. This research will enhance consumer safety and is in direct support of the Food Safety and Inspection Service.

With the strong support of this Committee, we have significantly strengthened our plant germplasm system. Scientists are increasingly concerned that valuable diversity of important farm animals is being lost. An increase of $1,800,000 for animal germplasm preservation and evaluation is included in the budget. If approved by Congress, these funds would be used to mount an organized national effort to preserve valuable germplasm that has potential to reduce the incidence of disease and improve the efficiency of livestock and poultry production. Our approach is to work closely with universities and other organizations to develop a network to identify, evaluate, maintain and make available to breeders germplasm with desirable qualities.

The budget also includes $100,000 to develop a plan on plant genome mapping. Mapping technology would enable research scientists to locate desired genes that may resolve problems such as disease, drought, and insect pest resistance or tolerance. Other genetic factors influence yield, maturation and nutritional content. Increased funds would be used to develop an action plan which will involve cooperation and coordination within ARS, the university system, and international centers of excellence.

Also recommended is a change in budgeting for major projects carried out for the renovation of the Beltsville Agricultural Research Center (BARC). The use of funds, as currently appropriated under the annual program account, is too restricted to meet overall planning and construction needs at BARC in an efficient, cost-effective manner. Therefore, a funding reduction of $3,583,000 in the program account at BARC is offset by an increase of $7,250,000 in the Buildings and Facilities account. These funds, along with previously appropriated funds, are necessary for the continuing modernization of facilities at Beltsville.

The Building and Facilities account also provides an increase of $8,750,000 for construction of the National Seed Storage Laboratory at Fort Collins, Colorado. These funds, along with previously appropriated funds, are necessary to initiate and complete construction of this important facility. Expanded storage facilities are required to house collection of endangered germplasm especially wheat, corn, soybeans, and forage crops.

Finally, the Agency is also requesting $2,500,000 for construction of the Southeast Poultry Disease Laboratory at Athens, Georgia. The increased funds would provide for an additional wing at the poultry laboratory and permit ARS scientists to address the problems of lethal avian influenza and exotic Newcastle disease.

Mr. Chairman, information supporting all program changes recommended by the budget are detailed in the Explanatory Notes, which have been provided. Additional information you may need on these, or other matters, will be made available.

My staff and I are available now to answer any questions you or other members of the Committee may have.

---

## Biographical Sketches

### R. DEAN PLOWMAN

Secretary Lyng appointed Dr. Plowman of Logan, Utah, as Administrator of the Agricultural Research Service on April 15, 1988.

Following his military service in the U.S. Army during World War II, Dr. Plowman earned his Bachelor of Science Degree in Dairy Science from Utah State Agriculture College in 1951. He received his Masters Degree in Animal Husbandry in 1955 from the University of Minnesota and his Ph.D. in Animal Genetics in 1956 from the University of Minnesota.

Dr. Plowman has 27 years of service with ARS, starting in 1956 as a dairy research scientist at the Beltsville Agricultural Research Center. In his early work with ARS, Dr. Plowman headed a group of scientists in planning, organizing, and conducting long-term studies on basic genetics, the application of advanced genetic concepts and principles to the improvement of dairy cattle, and studies of management factors which affect production characteristics. These research projects were in cooperation with 10 State Experiment Stations and 14 foreign countries.

In 1965, Dr. Plowman as Director of the ARS Animal Genetics Improvement Laboratory, was instrumental in the development of the current USDA sire summary procedures and in getting this method adopted by all segments of the dairy industry. As Branch Chief of the ARS dairy research program, he had primary responsibility for managerial and administrative leadership of the overall research program and the branch received national and international recognition. In 1972, Dr. Plowman was appointed Area Director for all ARS programs in Utah, Idaho, and Montana. In subsequent reorganizations, Dr. Plowman's responsibilities increased as Area Director of programs in the Arid Southwest states of Utah, Nevada, Arizona, and New Mexico, and as Area Director in the states of Colorado, Wyoming, Utah, Nevada, Arizona, and New Mexico.

In 1984, Dr. Plowman assumed the position of Head of the Department of Animal, Dairy, and Veterinary Sciences at Utah State University in Logan.

He is a member of a wide range of industry associations and committees.

He is married to the former Kathleen Simmons. They are the parents of five children.

### ROBERT R. OLTJEN

Dr. Robert R. Oltjen is currently Associate Deputy Administrator, Animal and Postharvest Sciences, National Program Staff, Agricultural Research Service, USDA. He received his B.S. and M.S. degrees in Agriculture from Kansas State University and his Ph.D. in Animal Nutrition and Physiology from Oklahoma State University. He joined ARS in 1962 and conducted beef cattle nutrition research at Beltsville, MD until 1977. He served as Director of the Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, NE from 1977–1988. In June 1988, he returned to Beltsville to assume his current position. Dr. Oltjen is the author or coau-

*thor of 200 scientific manuscripts, proceedings and abstracts. He has received several* national awards and a presidential citation for his research accomplishments. He served as President of the American Society of Animal Science and Chairman of the NAS/NRC Committee on Animal Nutrition.

### GARY R. EVANS

Dr. Gary R. Evans is currently Deputy Administrator for National Programs, Agricultural Research Service, USDA. A native of Idaho, Dr. Evans graduated from the University of Idaho with a B.S. in Forestry and M.S. in range management and soil science. He received his Ph.D from Colorado State University in Natural Resources Decision Theory and spent several years modeling ecological processes in terms of management decision processes. He is a certified Senior Ecologist-ESA, and a certified Range Management Consultant-SRM. From 1978 to 1987, in addition to full-time employment with USDA, Dr. Evans taught evening courses in Ecology of Deciduous and Coniferous Ecosystems, Ecological Field Methods, and Grass Taxonomy, at the Graduate School-USDA. He also served as Committee Chairman for the Graduate School's Department of Horticulture and Natural History Field Studies. Current work responsibilities necessitated his withdrawing from active teaching. He has also led numerous field trips for ANS.

---

## STATEMENT OF DR. JOHN PATRICK JORDAN

Mr. Chairman and Members of the Subcommittee: The Cooperative State Research Service is the agency of the USDA through which Federal research funding for the States is channeled and coordinated on behalf of the Department of Agriculture, in cooperation with all of the State and Territorial Agricultural Experiment Stations; the Colleges of 1890, including Tuskegee University; all of the Forestry Schools; and all of the Colleges of Veterinary Medicine in the United States. In addition to land-grant universities, there are other universities, not of the land-grant model, which are participants in the system. All of these institutions operate as a very effective system to jointly address regional and national needs as well as their particular State and local agendas.

### REPORT OF SELECTED SIGNIFICANT ACCOMPLISHMENTS

There are a number of exciting advances that I would like to report to you. Mississippi's newest early-maturing cotton variety, DES–119, topped the list of 20 varieties grown in four different environments in 1987, averaging 1,279 pounds of lint per acre, or 250 pounds above the state average. Further, it has the best 3-year performance of the top dozen cotton varieties grown at six locations in Mississippi. An estimated 12,000 acres were planted with DES–119 seed in Mississippi as well as 4,000 acres in Arizona and 3,000 acres each in Louisiana and Alabama. This variety has matured earlier by five days, increased yields, increased fiber strength, and improved disease and insect resistance over current varieties. The early maturing cottons have extended the harvesting season by 39 percent and have eliminated two or more pesticide applications, cutting production costs and reducing chemicals in the environment. The variety, released in 1985 from the breeding program at the Mississippi Agricultural and Forestry Experiment Station's Delta Branch, is the best variety to come out of an "earliness" breeding program that resulted in the release of the first two early maturing cottons in 1978. At that time, fewer than 15 percent of the cotton acres in the mid-South were planted to earlier maturing cotton. Today, DES varieties or varieties developed using DES germplasm, account for more than 70 percent of Mississippi's cotton. Eight new private company releases across the south utilized DES germplasm and other releases utilizing it are expected in the near future. This clearly demonstrates how Hatch Act funds support research which benefits a number of states. This research also exemplifies the need for a National Plant Germplasm Repository system to preserve and protect valuable germplasm lines and to make them available for future cultivar development. Breeding lines and cultivars from research programs such as this one are put into the system for maintenance and to provide easy access by scientists who may want to use the material in breeding programs. This need will grow in the future as the plant genome is mapped and biotechnology is employed in cultivar development.

Wastewater discharged from pulp and paper mills contains lignin and other wood components which result in a brown color. Researchers in North Carolina have used biotechnology to develop a process that removes color from the wastewater. The wastewater is circulated past plates covered with lignin-degrading white rot fungi.

Treated wastewater is then colorless. This McIntire-Stennis sponsored research could reduce the impact of pulp and paper mills on streams and rivers receiving wastewater.

Under an Evans-Allen project at the University of Arkansas at Pine Bluff, researchers are studying the production potential of blue tilapia as a new baitfish in Arkansas. Results indicate that blue tilapia may greatly increase the profitability of commercial aquaculture in Arkansas, while conserving valuable ground water and reducing the need for chemical treatments at the same time. A high level of production, which was roughly 30 times greater than is normally realized with other baitfish species, was achieved using no water exchange, no chemical or drug treatments, and no mechanical aeration to maintain water quality. Farmers could meet their markets for trotline bait with tilapia using far less acreage than is now necessary for other baitfish. The acreage made available could then be used to expand catfish production without incurring the costs of land purchase and new construction. If commercial production of hybrid striped bass becomes a reality as the experts predict, there may be a tremendous additional demand for tilapia as an economical forage fish.

In the United States, we have in place a 200-site monitoring network that has been collecting precipitation and atmospheric depositions since 1977. The design of this network is the result of close collaboration among scientists in the land-grant universities, Federal and State governments, and private industry. This network is highly recognized as a world leader for its high technological and management qualities. In a recent major accomplishment, scientists cooperated in the first comprehensive interpretation of network data from across the country. It was found that the chemical nature of depositions varies widely across the country. These findings are important to scientists funded under our Special Research Grants Program on Acid Precipitation as well as other programs. Experiments on effects of "acid rain" and other pollutants should represent a number of areas across the country in order to insure valid conclusions.

Litter mortality is a significant problem in pork production. Using an inbred colony of miniature pigs, researchers in Iowa have located a gene that appears to be associated with decreased mortality and larger litter size. This gene is in an area that controls the immune system. Larger litter size could be linked to improved embryo survival. The researchers are continuing work on this project in the hope of discovering if the immune system has a definable role in embryonic development. This research was funded from the Competitive Research Grants program.

## BUDGET RECOMMENDATION

The CSRS budget recommendation for fiscal year 1990 is $295,398,000. We are fully appreciative of the overwhelming need to reduce spending in the Federal Government, but this budget continues to reflect strong support for the State-Federal partnership in food and agricultural research and education.

The Hatch, McIntire-Stennis, and Evans-Allen programs are the foundation upon which the remaining Federal funds including special and competitive research grants plus State and private industry funds build. Funding of these base programs is a high priority because they support the basic laboratory facilities, scientists, and graduate students necessary for the long-term stability of agricultural research. These programs allow the institutions maximum flexibility to support research of the highest priority and at the same time assure the strong working relationship between the USDA and the State Agricultural Experiment Station system. Funding for the Hatch Act remains at the fiscal year 1989 appropriated level of $155,545,000. A decrease of $4,525,000 is proposed for the McIntire-Stennis program, however, $5 million is requested for a Forestry Competitive Grants program which had been appropriated in the Forest Service budget in fiscal years 1985 through 1988. The Forestry Competitive Grants program will support fundamental research in forest biology. There is a great need to develop coherent programs which will lead to a better understanding of how trees respond to global environmental changes. These funds will support competitive peer reviewed research to address these problems.

In 1990 we will celebrate the centennial anniversary of the legislation creating the 1890 institutions and we must recognize the importance these institutions play in our agricultural system. The budget recommendation contains a $1.0 million increase for the Evans-Allen program which will support increased research consistent with a broader USDA initiative to strengthen the contribution of the 1890 institutions to agricultural and natural resources research and education.

The Competitive Research Grants Program is also considered a high priority with fiscal year 1990 funding recommended at $63.5 million. This important research grants program supports advances in basic agricultural sciences which are crucial to the continued ability of our research system to respond to emerging producer needs. We are requesting substantial increases in the areas of plant sciences, including plant responses to the increased stratospheric ozone depletion, and animal sciences. Incremental increases are also requested in the areas of biotechnology and human nutrition. These are the only Federal competitive research programs which specifically target agricultural science needs.

There is widespread concern that a number of environmental changes are occurring on a global scale, such as drought, higher summer temperature as well as subtle changes in atmospheric gases. It is becoming evident that we do not know enough about how plants and animals interact with various environmental factors for us to develop appropriate response strategies. The requested increases in plant sciences will support fundamental research which is essential to the understanding of how the crop plants and trees grow under the normal environmental conditions. The requested increase in the stratospheric ozone depletion and crop program will stimulate the scientific community to address the question of how global changes affect growth and development of crops plants and trees. A very recent workshop, sponsored by USDA in which internationally renowned plant scientists participated, stressed the need to look at the stratospheric ozone problem as part of the global change. We need to increase the body of knowledge about the interaction of UV radiation and agronomically important plants so that biotechnological countermeasures can be developed.

Funds are also requested to support our participation in a joint plant science center program with the National Science Foundation and the U.S. Department of Energy in which scientists from different institutions and different disciplines work to solve complex plant science problems. Increased support for animal sciences will stimulate research activities in the basic animal health sciences which will lead to the development of control strategies based on the understanding of cellular and molecular mechanisms of various important animal diseases. It will also address issues associated with livestock reproduction.

The CSRS budget request includes funding for selected Special Research Grants which address important national needs such as acid precipitation, minor use animal drugs, pesticide clearance, pesticide impact assessment, integrated pest management, guayule, and the National Biological Impact Assessment program. As a part of a coordinated Federal water quality initiative, CSRS is requesting $6.7 million to conduct water quality research in the Midwest Corn Belt and in other major agricultural production regions. This is part of the USDA thrust in water quality. The Midwest Initiative will combine the expertise of State and Federal agricultural scientists to develop and field validate environmentally safe and economically feasible crop production systems considering the major crops, chemicals, and soil and water conditions of the region. This initiative will involve close coordination with the Extension Service, Soil Conservation Service, U.S. Geological Survey and the Environmental Protection Agency.

Research will also be conducted in other well identified but widespread areas across the United States on the physical, chemical, and biological processes that move chemicals through soils into ground water; components of improved crop, soil, and water management systems which will be needed in the Midwest and other initiatives; and on variables of soils, climate, and hydrogeology that affect economic and environmental responses in agriculture. This expanded research program on water quality is so important that it is a Presidential Initiative. In fact, it is a part of President Bush's budget proposal and agenda for "Building a Better America".

As part of the overall spending reduction package, no funding has been recommended for Rangeland Research, Aquaculture Centers, International Trade Development Centers, Low-input Agricultural Productivity Research, Supplemental and Alternative Crops, and other earmarked grant programs. Support for these activities can be provided in both the base funded formula programs and the Competitive Research Grants program.

## HIGHER EDUCATION

We are extremely pleased this year to include in the budget a new approach to strengthening higher education in the food and agricultural sciences. We are proposing a finely tuned, integrated program to achieve three major objectives. The first objective is to assure the Nation of an adequate supply of outstanding scientists and professionals committed to strengthening our food and agricultural systems—in fact, to overcome some rather critical shortages that are developing. To achieve substantial gains in mainstreaming the minority expertise available to the food and agricultural system is the second objective and the final objective is to strengthen the infrastructure of the education system that produces these scientists, namely the college and university degree programs, faculty, and undergraduates. There are two programs being proposed and higher education also is an important component of a new capacity building program for the 1890 institutions.

The National Needs Graduate Fellowships Program will recruit and train doctoral and master's fellows in targeted shortage areas such as biotechnology, bioprocessing/engineering, food science/human nutrition, marketing, and water science. Grants will be awarded competitively to institutions identified via the peer review process as offering excellent teaching and research programs in the targeted areas. CSRS is requesting $3 million in 1990. This program was initiated in 1984 and has served to attract more than 400 superior new graduate students from a broad array of academic backgrounds into high priority disciplines. It is very likely that without the fellowships program these students would not be pursuing graduate study today in a food and agricultural discipline. Hence, we are particularly pleased to include this program in the President's budget request for 1990.

The Institution Challenge Grants Program is designed to revitalize the educational system which is primarily responsible for training food and agricultural scientists and professionals. It will stimulate the private sector to match, dollar for dollar, the Federal partner in providing support to strengthen the infrastructure of the U.S. food and agricultural sciences higher education system. This $2 million program will foster partnership ventures among universities, industry, and government. Areas of partnership initiatives include curricula revitalization, faculty development, scientific instrumentation for teaching, undergraduate research including minority participation, and student recruitment and retention.

The 1890 Institutions Capacity Building Grants Program serves as the crux of the Department's high priority initiative to advance the capacity of the 1890 institutions and Tuskegee University. CSRS is requesting $11 million for this program. It will be a competitive program and will require cooperation with one or more USDA agencies in developing a proposal and in carrying out the capacity building project as well as an academic institution with a recognized center of excellence which directly relates to the objectives of the proposal. The awardee institution will be required to obtain a dollar-for-dollar match from a non-Federal source. Funds will be targeted to initiatives which transcend the capability of a single institution to achieve. The program is designed to encourage expanded linkages with 1890 institutions as performers of research and developers of scientific and professional talent for the food and agricultural system.

Mr. Chairman, that concludes my prepared remarks. I will be pleased to answer any questions.

---

## STATEMENT OF DR. MYRON D. JOHNSRUD

Mr. Chairman and members of the Committee, I appreciate the opportunity to discuss our FY 1990 Budget proposal for the Extension Service. As we commemorate our 75th year of our existence this year I am pleased to report about the excellent state of affairs in the Cooperative Extension System, attributable to the change process we effected with our National Priority Initiatives launched some 2 years ago, and in large measure, from the strong support being provided by this Committee. With the National Initiatives, we committed ourselves to a major reorientation effort. Instead of trying to fit clientele problems to an existing internal program structure, we embarked on a mission of adjusting our programs and structure to the problems our clientele consider as top priority.

During the past 2 years, the Cooperative Extension System initiated and has undergone a dynamic review and renewal of its public mandate. The renewal changes have been directed at four major ways of doing business:

1. Focusing resources more sharply on significant nationwide problems, e.g., water quality, agriculture competitiveness, human nutrition and food safety.

2. Planning, developing, and implementing programs on the basis of issues. For example, water quality is a national concern and we have put this on our agenda in concert with a coordinated effort within USDA. More specifically, Extension has identified immediate priority issues within water quality, such as:

- "What are the impacts of agricultural, household and industrial chemicals on water resources, water uses, and water users?"
- "What are the attributes of our hydrologic system that makes our water resources vulnerable to contamination?"

- "What can private citizens and local government officials do to address public concerns about the interactions of land use, chemical use, and water quality?"
- What can domestic, agricultural and municipal water users do to conserve their water resources and to protect or enhance its quality?

3. Intensifying our working relationships with appropriate organizations and agencies to address these nationwide issues. These issues are generally too complex for any one organization to tackle unilaterally.

4. Implementing and fine-tuning a strategic planning system for the Cooperative Extension System. A joint Extension Service, USDA and Extension Committee on Organization and Policy (ECOP) Strategic Planning Council has been commissioned recently to make recommendations regarding the future directions of the Cooperative Extension System. This council will solicit information from a futuring panel, which is an external scanning group, and from the Extension System. Involvement of both the external and internal publics is essential and will be sought under this process.

The National Initiatives are a significant part of the reorientation process that is leading to the renewal of the Cooperative Extension System. A significant part of the renewal process is issues-based programming.

This reorientation doesn't mean we're junking the knowledge, the experience, and the traditions we've built over the past 75 years. It does mean that, in taking the risks inherent in making change, we are rediscovering our best traditional strengths and capacities.

The logical and appropriate question one should ask is what redirection or change has occurred. During the past few months we've made significant progress in this area, focusing our resources more sharply on priority issues and using a systems approach to address issues. More specifically:

- We have been at the forefront of a massive effort to help farmers and others deal with last year's drought. Across 22 states and 2,000 counties, the Extension System demonstrated its capacity once again to quickly address current issues. Critically needed financial and production information was disseminated effectively and timely to affected farmers and ranchers using Extension's unique grass roots network.
- As part of a significant USDA water quality initiative, Extension Service, USDA, and the State Cooperative Extension Services are focusing existing and proposed new resources on intensive non-point source pollution water quality programs. The Extension Service, USDA, and the Soil Conservation Service have developed and initiated a rather specific and focused working relationship on water quality. This working relationship has been developed with the involvement and commitment of the State leadership of the Cooperative Extension System and the Soil Conservation Service. The specific mission of the Extension System is to provide information and education, while the Soil Conservation Service provides site specific technical assistance for the purpose of minimizing potential adverse impacts of agriculture on water quality.
- Extension assists public decision makers (national, state, local) in establishing their own rural revitalization policy and action programs. Extension Service, USDA along with the National Agricultural Library has established a Rural Information Center to support the Secretary's rural regeneration initiative. This computerized information and referral center is designed to respond to State and local officials requests for information about rural economic competitiveness and diversification, rural government services and facilities and local leaderships for changing times.
- The Cooperative Extension System and resources of the land-grant university system have responded to the needs of action and regulatory agencies as well as public concerns for food safety. For example, statistics compiled by FSIS show that since Extension became involved in residue avoidance programs in livestock and poultry beginning in 1978, coupled with adjustments in regulatory requirements, residue violation rates have decreased 81 percent. Reduced violations help increase government efficiency, reduce costs, improve image of meat and poultry products, and protect opportunities for marketing of products in foreign countries.
- The Extension System is cooperating with the National Rural Electric Cooperative Association (NRECA) in working with small businesses in a number of States. These private sector sponsored projects are aimed at promoting economic development in rural areas.
- The Extension System, working Cooperatively with ASCS, SCS, FmHA, and FCIC have led State and county efforts to inform and educate producers about the Conservation Provisions of the Food Security Act. Farmer assistance in

evaluating the economics of various alternatives associated with the Conservation Reserve Program element of the Act has been provided.

- The Extension System is one of several public organizations that recognizes our Nation's youth as severely at risk. America faces a youth crisis that crosses social, cultural, and economic barriers. Disturbing statistics and trends reveal poverty, poor nutrition, teenage pregnancy, substance abuse, depression, and suicide increasing among youth. The issues of school dropouts and illiteracy among our Nation's youth are of grave concern. Existing education, health and child care approaches are not entirely meeting the challenge. Extension education programs in family and youth development in a number of States are addressing this National problem.

## PROPOSED FY 1990 BUDGET

The Budget Proposal for FY 1990 for Extension Service totals $324,840,000, which is $36,530,000 or 10.1% less than the $361,370,000 appropriated in FY 1989.

This budget proposal allows the Cooperative Extension System to implement critical National initiatives goals in the area of water quality as well as initiate innovative projects focusing on the critical issues affecting rural and agricultural America. The proposed budget also enhances current institutional support to the 1890 land-grant institutions and Tuskegee University and maintains basic programs carried out at the 1862 institutions at current levels.

$6.5 million is being requested for water quality as a key component of a USDA-wide initiative in addressing ground water quality concerns throughout the Nation. The requested increase will provide resources to enhance ongoing extension programs in pesticide applicator training, will expand technical information delivery and will provide funds to allow Extension to participate with research agencies in the targeted program in the Corn Belt. Extension effort will be closely coordinated with Federal and State research programs to assure rapid transfer of environmentally sound, profitable farming systems to the producers who can implement them. A key part of the requested $5 million increase will be used to develop a series of demonstration projects to hasten the adoption by producers of new technologies to minimize adverse impacts on ground water.

Extension will also assist the SCS in preparing agricultural practice standards and specifications for pesticide management and for nutrient management. Also, in response to recent findings regarding pesticide seepage in ground water, residues in food and concerns for endangered species, we are proposing the continuation of current funding for Integrated Pest Management programs as well as funding increases for our Pesticide Impact Assessment program. A great deal of the information on both the technical and economic importance of agricultural pesticide comes from the State Extension system. The additional funds will also allow Extension to fully respond to the increased EPA activity in this area.

We are proposing again this year funding of highly focused priority issues, educational programs and demonstration projects to mobilize and utilize the capacity of the Cooperative Extension System in addressing critical National issues. Five million dollars is requested to initiate State-developed projects dealing with integrated agricultural systems, rural development, food safety and quality, pesticides concerns and others. Included within this proposal is a $500,000 project for GOSSYM-COMAX, a USDA project with the land-grant universities and the cotton industry which is responsible for significantly optimizing cotton yields while reducing input costs. These funds would require commensurate funding from both public and private support groups. In developing such projects, States will be requested to include the active involvement of both the public and private sectors; increase applications of integrated systems to program approaches; include evaluation as a key component of the project and provide additional resources to match the Federal contribution to further maximize program impact.

As part of USDA's strengthened commitment to the 1890 Colleges and Tuskegee University, the budget proposes a substantial increase for institutional support to these institutions, as well as continuing support for highly needed facilities improvement programs to effectively complement programs being carried out by the 1862 institutions, as well as fulfill their unique role in responding to the needs of small, limited-resource and minority clientele groups.

A more concentrated program is proposed for EFNEP in fiscal year 1990. To be concentrated in populous areas, the proposed reduced program will further intensify activities for support of food stamp recipients, as well as emphasize volunteer training and blending of traditional one-to-one program approach with small-group sessions.

We are also proposing the continuation of funding for the regional rural development centers as part of the Department's rural regeneration initiative.

Let me emphasize that the proposed funding levels for EFNEP, Pest Management and Rural Development Centers are based on the premise that States will match the Federal contribution for these programs. Thus, some of these programs could very well be carried out at existing levels, if not increased over prior years because of State matching requirements.

Lastly, we are proposing the elimination of the earmarked funding for Urban Gardening; Farm Safety; Farm Financial Management; IRM; RREA; Farmer Assistance Grants and certain special projects under the Federal Administration account. Most of the these projects have been sufficiently integrated into ongoing programs.

This concludes my remarks Mr. Chairman and I will be happy to respond to any questions from the Committee.

# USDA Research Plan for Water Quality

## Foreword

Advances in agricultural science and technology during this century have profoundly affected our standard of living and way of life. Agricultural chemicals contribute substantially to the productivity and efficiency of agriculture, and their many benefits to the well-being of rural and urban communities throughout the world are recognized and accepted. Even so, concerns about the possible risks to human health, water quality, and a safe environment resulting from a perceived overdependence on these chemicals are being expressed by a broad segment of our community. Better methods for detecting the presence of chemicals at trace levels in surface waters and groundwaters have alerted us to the need to be more judicious in their use and more careful in their management. The U.S. Department of Agriculture is committed to ensuring that this Nation meets the challenge of maintaining the efficiency and productivity of agriculture without compromising the quality of our water resources and the safety of our environment.

This departmental research plan establishes the goals, objectives, and implementation strategy for developing the science and technology needed to maintain and enhance the quality of our Nation's water resources. The need for a major research effort on the full spectrum of water quality problems resulting from agricultural and silvicultural activities is recognized. However, because groundwater is the primary source of drinking water for nearly 90 percent of our rural population and more than 50 percent of our total population, the plan emphasizes improved chemical use and management for protecting groundwater quality. The research will be conducted in cooperation with other Federal agencies with missions and responsibilities for water quality protection. The plan was developed jointly by the Agricultural Research Service and the Cooperative State Research Service, with major contributions from professionals of the State agricultural experiment stations and from other agencies of the Department, including the Agricultural Stabilization and Conservation Service, Economic Research Service, Extension Service, and Soil Conservation Service.

Orville G Bentley

Orville G. Bentley
*Assistant Secretary*
*Science and Education*

## Executive Summary

Widespread public concern exists that agricultural and forestry activities are contributing to the contamination of the Nation's surface waters and groundwaters. The U.S. Department of Agriculture and State institutions have some excellent research programs that address this concern. The Department now proposes a plan for integrating and expanding these programs to emphasize groundwater research. The plan does not include all the groundwater concerns of the Department but, rather, focuses on the impacts of pesticide and fertilizer use on groundwater quality. The surveys of groundwater quality that have been conducted show small quantities of pesticides and nitrate in some wells. However, the data are inconsistent, and the inconsistencies, for the most part, lack an adequate explanation. The insufficiency of and inconsistencies in available data make it difficult to know how serious the problem is, how widespread it is, and how it should be solved.

The new research plan proposed by the Department calls for a broad partnership with other Federal agencies and State institutions to fill key information and technology gaps in groundwater quality assessment and management. The goals are to determine the seriousness and extent of the groundwater quality problem, improve our understanding of the processes that control chemical leaching, and provide timely and cost-effective remedies for problems that exist.

A major research effort is planned to improve our understanding of the processes that determine agricultural productivity, and the fate and transport of agricultural chemicals. This understanding is essential to the development of new and improved components of economically viable and environmentally safe crop production systems. It will also facilitate the adaptation of field-tested production systems to changes in soil, crop, and climatic conditions. This research will enhance and expand the research already underway in State and Federal laboratories. Significant advances are projected in assessment technologies, sampling and analytical methods, onfarm waste disposal practices, and the development of innovative soil, water, and chemical management practices.

A Midwest Initiative is also planned to assess the severity and extent of the groundwater quality problem in selected corn and soybean production areas of several Midwestern States and to demonstrate a systems approach to problem solving. The assessment strategy will be based on the use of intensively instrumented sites that represent the diversity of soil, geologic, and climatic conditions found in the Corn Belt. A systems approach will be used to determine the combinations of production practices that best satisfy the economic, environmental, and social needs of the region. Emphasis will be placed on corn and soybean production systems that are suitable for use on croplands overlying the major aquifers of the region. Management support systems will be developed to help farmers and others select the practices that improve both farm profitability and groundwater quality. The proposed systems approach will permit the transfer of results to conditions not included in the field program and to areas other than the experimental sites.

A similar systems approach will be used to identify the optimum combinations of crop production practices for other physiographic regions of the country with vulnerability to groundwater contamination by agricultural chemicals. Regions of major concern include those with intensive dryland and irrigated farming, concentrated livestock production, high recharge rates, and shallow groundwaters. Emphasis will be placed on intensively managed croplands overlying aquifers that are important to rural development or that supply the drinking water needs of a large number of people.

Results of this plan will provide definitive answers to many of the questions being asked. Public fears will have been addressed. Whether or not there is a basis for these fears, best management practices will be identified and/or developed so that the leaching of pesticides, nitrate, and other potentially hazardous chemicals can be minimized and managed. Practical, inexpensive pesticide waste disposal systems will be tested for onfarm use. Regardless of the severity and extensiveness of the current problem, major environmental and economic benefits to future generations can be expected.

## Introduction

The Nation's surface waters and groundwaters are being adversely impacted by human activities. Potential water contaminants include sediments, salts, toxic trace elements, animal and human wastes, and agricultural and industrial chemicals. Most of the major surface water quality problems, including the offsite damage from agricultural and forestry practices, have received considerable attention from the research community. While substantial progress has been made in solving some of the water quality problems associated with crop, livestock, and timber production, much more work remains to be done.

A problem that has attracted considerable interest in this decade is the intrusion into groundwater of agricultural chemicals applied to soils and crops. Groundwater quality surveys conducted during this period have detected trace amounts of nitrate and selected pesticides in certain aquifers. The significance of the findings remains inconclusive and controversial because many of these chemicals are detected at very low concentrations, their toxicological effects are not clearly established, and much of the data are of unknown quality.

Nevertheless, public apprehension continues to increase as more attention is focused on the possible health effects associated with some of these chemical residues. These public concerns are increasing the pressures for new environmental legislation and regulations on chemical use and disposal at local, State, and Federal levels. The implications for U.S. agriculture and the future well-being of the farm community could be serious.

The U.S. Department of Agriculture (USDA) is concerned about the health of our rural population, environmental quality, farm profitability, and user liability, even though it has not been possible to assess definitively the significance of the concentrations of chemicals that have been reported. In response to these concerns about chemical residues in groundwater, the USDA now proposes a major Federal and State collaborative plan to determine the magnitude and scope of the groundwater quality problem, and to develop resource management strategies for minimizing any contribution from agriculture to the problem.

## Justification

It is increasingly recognized at State and Federal levels that agricultural research must give more attention to developing methods for assessing and controlling, where appropriate, the environmental consequences of changes in farming and forestry practices. For more than two decades, the public has been concerned about the potential threat that agricultural and other chemicals will enter and degrade the quality of surface waters. This concern led to the enactment of major Federal legislation to protect surface water quality. In turn, the legislation triggered a nationwide effort, involving all levels of government, to evaluate the severity of the problem, develop cost-effective solutions, and regulate the use and disposal of potentially harmful chemicals.

Until recently, there was less concern in the general population and the scientific community about the potential for agricultural chemicals to contaminate groundwater. This lack of broad concern was based on an intuitive acceptance that several feet of soil provides an effective natural filter or reaction zone for removing potentially damaging chemicals. While the filtering effect of the soil is adequate for many chemicals, recent experimental evidence suggests that at least for some soils and chemicals, the soil filter is less efficient than had been assumed. This evidence has, in turn, raised questions regarding the environmental costs of farming practices such as conservation tillage, fall fertilization, chemical control of weeds, and chemigation and fertigation (the application of pesticides and fertilizers, respectively, with irrigation water). Research is needed to answer these questions and to provide solutions to any problems that exist. This research must recognize the intimate relationship between surface water and groundwater.

The potential for groundwater contamination by agricultural chemicals is high in many of the major crop and livestock producing areas of the country (see map). Factors that increase aquifer vulnerability include intensive cropping, high levels of fertilizer and pesticide use, poor water management, permeable soils and subsoils, and shallow water tables. Limited research in these areas indicates that the adverse impacts on groundwater quality of some current agricultural production practices may be significant. An expanded research effort is needed to determine the areal extent and severity of these impacts. Where major problems exist, additional research will be needed to develop and evaluate new practices that adequately protect groundwater quality.

Two critical short-term needs are accurate assessment and cost-effective reduction of the overall contribution of agriculture to groundwater contamination. Meeting these needs will require an expanded research program to identify the separate contributions of a large number of farming practices within a broad range of crop and livestock production systems. Some of these practices and their associated systems are of local concern; others are of regional or national relevance.

New and existing practices that are considered beneficial to the environment include conservation tillage; targeted, low-volume pesticide applications; banded or reduced fertilization; improved nitrogen management through more effective crop rotations; improved water management; integrated pest management; and increased use of soil and plant analyses as a basis for improving the accuracy of fertilizer recommendations. However, the effects of these practices and their adaptability for practical and profitable use are often site specific. They vary with soil type, geology, climate, and cropping system and are affected by economic, social, and political considerations.

A major national concern is the effect on groundwater quality of USDA decisions that promote the use of conservation tillage. During the past two decades, many farmers adopted some form of conservation tillage, replacing conventional moldboard plowing with practices such as ridge tillage, minimum tillage, or no tillage. Initially, these practices require an increased use of agricultural chemicals, particularly herbicides to control weeds that in the past had been partially controlled by conventional tillage practices. Nationwide, the planted acreage in conservation tillage increased from 2 percent in 1968 to 31 percent in 1987. The compliance provisions of the Food Security Act of 1985 are expected to accelerate the adoption of conservation farming practices. While these practices effectively control soil erosion and may provide economic benefits, the implications of their expanded use on pesticide and fertilizer residues in the soil and on groundwater quality are largely unknown.

Without a substantial improvement in our knowledge of the effects of conservation tillage on chemical use, groundwater recharge rates, pest control, and farm profitability, it will not be possible to respond effectively to the concerns of those who feel that USDA's conservation tillage initiatives are exacerbating the groundwater quality problem. Proponents of conservation tillage are convinced that farming systems can be developed that will decrease the loss of agricultural chemicals to groundwater and also reduce contaminant levels resulting from past farming practices.

Some excellent research programs on water quality are already underway in most States and are being conducted by the Agricultural Research Service, Cooperative State Research Service, State agricultural experiment stations, and the land-grant universities. A few of the programs on groundwater quality are being conducted on a multi-State or regional basis. The expansion, integration, and coordination of these programs according to a single plan with national goals and objectives are a high priority need. The USDA Research Plan for Water Quality is such a plan. It will expedite the development and evaluation of agricultural production practices that protect groundwater quality and adapt readily to local soil, climatic, cropping, and socioeconomic conditions. The applied research programs will benefit materially from current and new knowledge on the source, transport, and fate of agricultural chemicals in the soil, underlying parent material, and groundwater.

## Goals

The general goal of the USDA plan is to safeguard and enhance the quality of the Nation's surface waters and groundwaters in the presence of sustained agricultural activities. Emphasis will be placed on groundwater quality.

The specific goals of the plan reflect this emphasis and are

1. To assess the seriousness and extent of agriculture's impact on groundwater quality.

2. To develop new and improved agricultural systems that are cost effective and enhance groundwater quality.

## Objectives

The following objectives are designed to meet the general and specific goals on groundwater quality:

1. Document the sources and amounts of potentially hazardous contaminants in groundwater which are attributable to current agricultural and forestry practices, and identify the basic processes involved in their movement through soil and into groundwater.

2. Develop new field and laboratory methods for rapidly, reliably, and inexpensively analyzing pesticide residues and for determining the rates at which water and chemicals move through soils to groundwater.

3. Develop new and modified crop and livestock production systems that substantially decrease the movement of potentially hazardous chemicals into groundwater, and determine the effects of these new systems on farm costs, changes in farm inputs, and production choices.

4. Develop simple, inexpensive, onfarm methods for disposing of pesticide containers and other hazardous wastes without contaminating groundwater.

5. Develop decision-aid systems that may be used by technical and farm management specialists, Extension agents, and farm consultants to help individual farmers select, apply, and manage profitable and environmentally sound crop and livestock production practices.

6. Evaluate the economic, social, and political impacts of alternative crop and livestock production systems, policies, and institutional strategies to control groundwater contamination.

## Elements of the USDA Plan

The USDA plan comprises two elements: I. Priority Component Information and II. Selected Geographic Systems.

The Priority Component Information element consists of conducting research to obtain information on the basic physical, chemical, and biological processes that determine the movement of contaminants through soil into groundwater; to develop new and improved crop, soil, and water management components of cropping systems; and to identify the climatic, soil, and hydrogeologic variables that affect the economic and environmental responses of agricultural ecosystems.

Currently, a significant amount of relevant research is being conducted by State and Federal scientists in most areas of the United States. This work must be continued to meet the information needs of the diverse physiographic regions of the country. As envisaged, this element of the plan will enhance current research and support new thrusts identified as critical for maintaining a competitive agriculture in areas where the risks of groundwater contamination are high.

The Selected Geographic Systems element consists of obtaining all the priority component information for selected geographic areas and providing those areas with specific options for managing soils, crops, chemicals, and water to maintain farm profitability and enhance soil and water quality. The Midwest, or Corn Belt, has been selected as the first area for work of this kind. The Midwest initiative will be a major research effort and is expected to demonstrate the soundness and effectiveness of the systems approach to solving problems of groundwater contamination common to a wide area. Work will focus on the development of economically and environmentally sound corn and soybean production systems; and it will be conducted in collaboration with other State and Federal agencies, including the Geological Survey and the Environmental Protection Agency.

## I. Priority Component Information

The priority components of information are discussed according to the sequence of objectives needed to meet the goals of the USDA plan.

### Site Selection, Sampling, and Analytical Methodologies

Initially, priority will be given to solving the problems of sampling, sample integrity, and analytical methodology. A significant body of information shows that spatial and temporal changes in the concentrations of some contaminants in groundwater samples can be substantial. Measured concentrations may vary by an order of magnitude or more. The reasons for this variability in water quality will be given particular attention. Solving these problems will help ensure that the most cost-effective and well-designed protocols will be used throughout all phases of the research, and that action and regulatory agencies will have access to efficient monitoring procedures.

Improved sampling methodologies will provide the means to obtain accurate and representative data at a substantially reduced cost. Thus, they will meet a critical and widespread need by research, action, and regulatory agencies. The tools to be developed will include in situ and low-cost pesticide analytical methods, leachate and groundwater recharge measurement and sampling methods, and sampling strategies that accurately determine spatial and temporal variabilities.

The in situ and low-cost methods of pesticide residue analysis to be developed will include promising optical, potentiometric, and enzymatic devices that can be operated in a field laboratory or installed in a well/lysimeter. These methods will be designed to obtain continuous or high frequency data on the amounts of selected pesticide residues present. The analytical strategy will rely primarily on low-cost, efficient analyses, with detailed, highly sophisticated analyses made periodically only as a check. The present cost of nearly $100 per pesticide sample for conventional analysis imposes major limitations on the capability of most agencies to conduct comprehensive monitoring programs.

Because the spatial and temporal variabilities of soil and subsoil properties have a major influence on chemical movement, fundamental work will be undertaken to determine how to use basic soil properties, lithology, and structure in developing efficient field sampling protocols. The variabilities of other site specific characteristics, such as climate, hydrology, and geology, which also affect groundwater recharge and chemical leaching, will be defined and incorporated into simulations and interpretations. Often it is the extreme values of these characteristics, rather than their means, that control chemical leaching.

### Fate of Agricultural Chemicals

One of the priority components of information needed to understand the impact of agricultural practices on water quality is the fate of chemicals introduced into the soil/groundwater system. These chemicals are subject to physical, chemical, and biological processes that act jointly to determine their fate. Prediction of the extent and duration of groundwater contamination depends upon an adequate understanding of these dynamic processes. Although previous work has identified the general character of these processes, their effects on the fate of many of the new chemicals being introduced into the environment are as yet inadequately understood.

Consequently, further research will be undertaken to more completely define the chemical and biological degradation processes, mobility and leaching processes, and volatilization and plant uptake processes for these agricultural chemicals. Because of the increased use of high residue farming, emphasis will be placed on research to evaluate the effects of crop residues on soil moisture and temperature profiles, nitrogen and pesticide losses, and optimum chemical requirements for plant nutrition and pest control.

### New and Improved Management Practices

Mechanical, cultural, biological, manual, and chemical methods can all be used in various combinations to control the growth of weeds and prevent serious losses in crop production. An accelerated effort to develop integrated weed management systems and general pest management systems will be a major thrust of this information component. Research on controlled-release formulations of existing pesticides and the development of innovative methods of weed control will be actively pursued.

Chemigation and fertigation are effective ways to apply pesticides and fertilizers to irrigated crops. Improvements in these practices will be made to minimize the risk of excessive chemical movement below the root zone. The benefits of using advances in water management technology, improved irrigation practices, surface and subsurface drainage, and water table control, to improve water quality will also be assessed.

### Low-Cost Pesticide Disposal

Improper disposal of pesticide wastes and containers poses potentially significant hazards for contamination of soils, surface water, and groundwater. A simple, inexpensive, pesticide waste-water disposal unit has been developed, and two prototypes have been built. The disposal method uses ozone to fragment the pesticide and soil microorganisms to metabolize the fragments. Improved strains of these organisms will be developed to improve the efficiency of the process. The genes associated with the metabolic process will be isolated and inserted into natural soil organisms to enhance their ability to break down pesticides in soils and contaminated waters.

### Predictive Models and Decision Aids

Models that simulate the behavior of chemicals in the soil/ground system are becoming valuable tools for assessing the fate of potential soil and groundwater contaminants and for extrapolating the data collected at selected sites to other areas. The most detailed forms of these models are used by the research community to test their understanding of the basic physical, chemical, and biological processes operating in agricultural ecosystems. Simplified forms of these tested models are used by community managers and regulatory personnel to predict in broad terms the environmental fate of chemicals introduced into agricultural ecosystems. They are also used to identify geographic regions, and cropping and livestock production systems which pose a potentially serious threat to groundwater. They have the potential to be used as decision aids by agricultural specialists and managers working with farmers to design and implement environmentally safe practices.

Despite the substantial progress that has been made, major improvements in accuracy, flexibility, and performance are needed. The research to be undertaken will improve the reliability of these models and decision aids by incorporating improvements in scientific understanding of the processes and components. Model flexibility will be improved by extending the capabilities of existing models to include two-dimensional and possibly three-dimensional simulations of agricultural landscapes.

### Economic, Social, and Political Impacts

Groundwater contamination has economic, political, and social consequences, many of which are new to our experience. Further, the complex economic and policy setting in which contamination occurs is poorly understood. Issues to be addressed include analyses of economic and other incentives that influence individual agricultural practices in ways that lead to groundwater contamination, appraisals of the economic and social consequences of alternative agricultural policies, and more effective institutional strategies for minimizing groundwater contamination.

## II. Selected Geographic Systems

The available information on the concentrations of agricultural chemicals in groundwaters and on the comparative vulnerability of different landscapes to the leaching of chemicals indicates that a systems approach to solving the groundwater quality problem is needed for several major crop producing areas. Some examples of crop and livestock production systems that could benefit materially from a regional integration of effort by State and Federal scientists include concentrated crop and livestock production systems in the Northeast, multiple-cropping systems in the South and the Southeast, wheat production systems in the Great Plains States and Pacific Northwest, corn and soybean production systems in the Midwest, and vegetable and horticultural production systems in irrigated areas of the West. The groundwaters underlying all these areas have been identified as vulnerable to contamination by some of the fertilizers and pesticides now in use.

Developing environmentally safe crop production systems that are acceptable to the farm community for the diversity of crops grown, chemicals used, and site conditions needing attention presents a major challenge to the agricultural community. For some crop production systems, the information base needed to select an optimum combination of farming practices might be better developed as a local or State activity. Consequently, a flexible research approach is proposed that will permit the optimum use of Federal, State, and local resources to solve identified groundwater problems.

## Midwest Initiative

The Midwest has been selected as the first geographic area for which the systems approach will be used. The selection was based on the following important factors. The Midwest is one of the most extensively farmed areas of the United States, producing more than half of all U.S. corn and soybeans and using a proportional level of agricultural chemicals. Three of the leading pesticides used by the area's farmers—atrazine, alachlor, and carbofuran—have been found in trace amounts in the groundwaters of several Midwestern States. Also, the groundwaters of this area have been identified as potentially vulnerable to contamination by nitrogen as nitrate, and high rates of nitrogen fertilization are used in corn production. Finally, conservation tillage practices, with their expanded use of pesticides and fertilizers, have been widely adopted by midwestern farmers and are now used on 45 percent of their croplands. This percentage is substantially higher than the average for the Nation.

The benefits derived and the lessons learned from the Midwest Initiative are expected to have broad national relevance and significance because the approach and procedures used will be applicable to similar initiatives in other parts of the country.

### Approach and Procedures

A two-stage approach is planned. The first stage will focus on an assessment of whether, the extent to which, and the range of conditions under which the agricultural chemicals applied to corn and soybean production areas reach groundwater. The second will focus on the development and evaluation of new or improved management practices that will protect groundwater from contamination by agricultural chemicals while maintaining or increasing farm profitability. Emphasis will be placed on practices particularly suitable for sensitive sites or critical conditions.

#### Assessment

In the assessment stage, the aim is to determine the pesticide and nitrate losses to groundwater for given corn/soybean management practices and to obtain information on the timing and magnitude of groundwater contamination due to these losses. The pesticides to be considered will include the herbicides atrazine and alachlor and the insecticide carbofuran. Others that are widely used in the Corn Belt and have a demonstrated potential to degrade groundwater quality may also be included.

A number of assessment sites will be selected in the Corn Belt. The sites will be representative of corn and soybean production areas that overlie significant groundwater aquifers. Significant aquifers are either extensive, important to rural development, or supply the drinking water needs of large numbers of people. The types of farming systems in use, the climate, and the characteristics of the area's soils, topography, geology, and aquifers will be considered in selecting representative sites. The operational procedures used at each site will be basically the same to facilitate comparisons of data and results.

Each site will be hydrologically distinct and will approximate a farm unit of 80 to 600 acres. The site will be subdivided into a number of large-area plots, the size and number of plots to be determined by the range of local conditions and cultural practices. In laying out plots, site characteristics will be considered to avoid undesirable interplot influences on the observed chemical concentrations in the underlying groundwaters.

A number of plots will be needed to provide adequate replication of the different corn/soybean cultural treatments. One set of plots at each site will be established at the start of the project to assess and compare chemical movement to groundwater for the cultural treatments used in the vicinity of the site. To compare differences among sites, at least one of these treatments will be common to all sites and will represent a "typical" farming system used throughout the Corn Belt. Other treatments will be selected to represent the more widely used conservation tillage and cultural systems. A second set of plots may be established at each site when new or improved management practices have been identified as promising enough to warrant field evaluation. The decision on whether to proceed with the establishment of these plots will depend on the response time of the soil/groundwater system to proposed changes in the farming system.

Work in the assessment stage will require measuring the key inputs and outputs of water and chemicals for each plot and determining water and chemical transport rates, crop parameters related to growth rate, yield and quality factors, and economic costs and returns. The water and chemical balance measurements will provide the information needed to determine the rates and amounts of losses of chemicals to groundwater and their potential impact on water quality. The economic data obtained should be sufficient to establish the economic and physical relationships between agricultural production, input cost, and water quality for the Corn Belt.

The issue of transferability of information from the selected experimental sites to other corn and soybean producing areas is critical to the development and implementation of sound policies and programs for managing agricultural chemicals. Concepts and procedures will be developed and tested to facilitate the transfer of physical, biological, and economic information, and to evaluate the social, economic, and environmental consequences of national, regional, and State strategies for managing groundwater quality. The performance of the predictive models and decision aids that are developed under the Priority Component Information element of this USDA plan will be tested using real-time data acquired in these experiments.

#### Development of New Management Practices

Work in the second, or developmental, stage of the approach involves developing new practices or modifying major components of current practices for producing corn and soybeans, with the aim of reducing chemical losses to groundwater. New fertilizer practices may include the use of various regulators of soil and crop biology to control soil nitrate levels during periods of high leaching potential, management practices that synchronize soil nitrate availability with the nitrogen requirement of the crop, and use of winter cover crops to reduce water and nitrate levels in the soil during noncrop seasons.

New pesticide practices may include the use of pesticides in controlled-release carriers; low-persistence, leachable pesticides; band applications of pesticides; specified application times and rates; split applications; pesticide combinations; and combinations of chemical and non-chemical measures.

Because current pesticide waste disposal practices may be contributing to groundwater contamination, new disposal practices will be developed and tested. Also to be developed are decision aids for enabling corn and soybean producers to select farming systems that will permit them to profitably manage their farms with due attention to groundwater impacts. Finally, methodologies will be developed for analyzing the social and economic consequences of changes in farming systems and in programs and policies associated with chemical use and management.

### Coordination of Research on Midwest Initiative

A technical and coordinating committee will be established, and its members will consist of designated representatives of the cooperating agencies and institutions. Representation on the committee will not be limited to professionals from the target region. The committee will be responsible for developing detailed research and implementation plans, standardizing the procedures to be used where necessary, and providing direction and oversight to the project as a whole. It will have the authority to oversee the reaching of milestones and the development and release of products identified in the research plan.

Multidisciplinary research teams will be organized at several locations in the Midwest. Each team will receive specific research and development assignments from the technical and coordinating committee. Teams will be expected to devote a substantial part of their effort to meeting the stated goals of the overall project. Additionally, each team will be expected to perform project-related research of its own design. The provision for such research is intended to widen the opportunity for discovering innovative, cost-efficient ways of reducing chemical losses through leaching from corn and soybean fields. The committee may, at any time, alter the original research plan to follow up on new and promising discoveries.

A team of scientists, computer programmers, knowledge engineers, and support personnel will be established to design and implement a project data bank. Existing expertise will be used where appropriate. This team will have the important assignment of developing decision aids for corn and soybean producers. Onfarm and local economic impacts will be assessed for each cultural/management system selected for testing. The physical, chemical, biological, and economic data will be made available to Federal, State, academic, and private institutions engaged in research, chemical registration, economic analyses, and farm and resource management.

### Agency Responsibilities for Midwest Initiative

This initiative is envisioned as a major interagency cooperative project involving USDA agencies. State agencies and institutions, and other Federal agencies with missions, responsibilities, or concerns related to water quality protection. All agencies will assist with project planning, selection of sites and farming systems, and analysis and interpretation of the experimental data.

The Agricultural Research Service will be responsible for coordinating the instrumentation and data collection activities. The Cooperative State Research Service will coordinate the project related research undertaken by the State agricultural experiment stations and land-grant universities. The selection of scientists and projects will be competitive to the extent possible to maintain the integrity of the initiative. The Economic Research Service in cooperation with the State agricultural experiment stations will develop cost analyses of farm management practices and evaluations of the economic impacts of water quality management initiatives.

The Soil Conservation Service will provide general soils and landscape information and specific characteristics of soils and topography for the experimental sites. The Agricultural Stabilization and Conservation Service will provide cropping history records for project sites that have been included in a commodity reduction program. The Extension Service will be responsible for ensuring that the research sites are appropriate to serve as a regional and/or topical educational resource for training State and Federal personnel, local leaders, and other pertinent clients.

The Geological Survey and its State counterparts will be asked to provide the expertise needed for the hydrogeologic components of the initiative. The possibility of interfacing this Midwest Initiative with the Midcontinent Initiative being developed by the Geological Survey will be closely examined. The Environmental Protection Agency will be asked to augment this project with data from its planned national survey of pesticides and nitrate in well water samples and to assist with data quality assurance and sampling protocols.

## Coordination and Implementation of USDA Plan

To provide overall policy and technical guidance and to ensure coordination of the research efforts supporting the goals and objectives of the USDA plan, the following organizational structure will be used.

### National Technical Committee

A national technical committee comprising representatives of appropriate Federal agencies and cooperating State and private institutions will be established to provide guidance on policy; provide overview and approval of general guidelines on administrative and technical matters; and facilitate coordination of work by participating agencies, departments, and other institutions.

### Regional Technical and Coordinating Committees

Regional committees, patterned after the regional system of the Cooperative State Research Service, will be formed from representatives of participating agencies and institutions. They will develop priorities and organize and conduct planning and reporting conferences. These conferences will provide forums for reporting the results of research supported by new funds, as well as related but independently supported research. They will help to establish and maintain effective lines of communication, an essential requirement for a well coordinated program.

## References

Burkart, M.R., Ragone, S.E., Thurman, E.M., and Perry C.A. 1988. Herbicides in ground and surface water: A mid-continent initiative. [Preliminary draft.] U.S. Geological Survey. Reston, VA.

Crowder, Bradley, and C. Edwin Young. 1988. Managing farm nutrients—tradeoffs for surface- and ground-water quality. U.S. Department of Agriculture, Economic Research Service, AER 583.

NASULGC Division of Agriculture, Ad Hoc Committee on Water Quality and Management. 1987. Water quality and management: A plan for action. Washington, DC.

Nielsen, Elizabeth G., and Linda K. Lee. 1987. The magnitude and costs of groundwater contamination from agricultural chemicals: A national perspective. U.S. Department of Agriculture, Economic Research Service, AER 576.

Scott, N.R., ed. 1985. Groundwater quality and management, draft report III. [Prepared by Experiment Station Committee on Organization and Policy, Cooperative State Research Service, Task Force on Groundwater Quality.] New York Agricultural Experiment Station, Ithaca, NY.

U.S. Department of Agriculture, Agricultural Research Service. 1985. Agricultural Research Service Program Plan: 6-Year implementation plan, 1986-1992. Washington, DC.

U.S. Department of Agriculture, Agricultural Research Service. 1988. ARS Strategic Groundwater Plan: 1. Pesticides. Washington, DC.

U.S. Department of Agriculture, Agricultural Research Service. 1988. ARS Strategic Groundwater Plan: 2. Nitrate. Washington, DC.

U.S. Department of Agriculture, Soil Conservation Service. A national program for soil and water conservation: The 1988-97 update. [Review draft.] Washington, DC.

### WATER QUALITY

Senator **Burdick**. Anytime the other members of the panel would like to add their comments to the answers given by the witness, please do so because we think that is a good way to approach it today.

The budget contains and your testimony notes additional emphasis on water quality research and education. In the hearing last week Secretary Yeutter said he would hypothesize that you are not working as feverishly as you need to in this area. Do you agree with that assessment? Do you believe this budget that you present will change the situation?

Dr. **Bentley**. Was that on water quality issues?

Senator **Burdick**. That is right, water quality research and education.

Dr. **Bentley**. Mr. Chairman, this is a big area and a complex area, and I would like to ask my associate, Mr. Long, Bob Long, to speak a little bit to this question. I think it does one thing that is very important, that I feel is very important. It helps us bring the agencies together in the Department to look at some of the many questions such as the physical question of water potential, the contamination, and what are the causes of it, and how we might remedy that through procedures that also bring people together so that we can work in a team effort and try to utilize the resources not only in the Department but other agencies as well.

Mr. Long, Bob.

Mr. **Long**. Just to emphasize, Mr. Chairman, what we have come up with is a Department program, not just one agency. Water cuts across lines and responsibilities. It has been something of a challenge to pull all of the interested parties together to make a concerted program.

Dr. Bentley mentioned that there is about a $40 million increase in our normal water and water conservation and water pollution concerns for the 1990 budget, and there is a substantial increase in our effort over and above what we have been doing for many years. We think it is going to be a good, strong start in the right direction. It is going to take quite a while to get the job done, though.

Senator **Burdick**. We also had some discussions about who is really taking the lead role in water quality research. Last year in our report we directed ARS to assume Federal leadership in the development of implementation strategy for a major interagency project to determine the magnitude and scope of the ground water quality problem and to develop resource management strategies for solving problems that exist.

Is ARS the lead agency for water quality work in the USDA?

Dr. **Plowman**. Yes, Mr. Chairman. We are very actively engaged in doing some coordination right now in terms of planning for the other Federal agencies both in USDA and in other departments. We have appointed Dr. Amerman, who is leading that effort. He is meeting with all of the groups that are involved, and we plan to have a statement and a report to the Congress this fall which will outline our joint planning effort and coordination in this water quality initiative.

Senator BURDICK. Is USDA recognized as the lead department Governmentwide in this area?

Mr. LONG. Mr. Chairman, there is not at the moment a designated leader as such. What is happening, though, is a major Federal agency coordination effort under what we call FCCSET, which is the committee for coordination in science and education. Through that mechanism the Departments of the Interior, Agriculture, Defense, Commerce—almost the entire Government is involved.

A report will be coming to you shortly—probably within the next 6 weeks—outlining exactly what the Federal system is doing, Federal direct and supported efforts in this area, particularly in the area of research and water quality.

I cannot say that anyone feels that there is at this present time a need to have a singular agency head, but if we can work effectively together, as I think we are doing now, that may not be necessary. At this point in time there is not one. I think that USDA probably is recognized broadly as leader in those areas that deal with agricultural issues in rural areas in this country, and that is where our programs are primarily directed at this time.

Senator BURDICK. I have just received a report from ARS dated January 1989, entitled "USDA Research Plan for Water Quality." Is this your response to the committee's request for a report on this subject by September 30, 1989?

Dr. PLOWMAN. No, sir; that is an internal and in-house assessment and plan for ARS, CSRS, and federally funded State agricultural experiment stations activities for water quality research, but it does not address this broader issue of being leader and coordinator of the broader initiative that we have before you.

## EFNEP

Senator BURDICK. In recent years, the Expanded Food and Nutrition Education Program [EFNEP] has been restored by Congress despite administration recommendations that it be terminated. I have heard it said that EFNEP is the most far-reaching practical nutrition education program for low-income households.

Since the Federal Government has obviously taken the lead in establishing uniform nutrition standards and benefits for low-income persons nationwide, how can we now rationalize requiring States to pay half of the cost of EFNEP?

Dr. JOHNSRUD. I will respond to that because it is part of the Extension Service budget. I agree that it is a successful and important nutrition program. The proposal to require matching is not unique in the Extension budget. Most of our funds require State match at some level. It is new in the area of the Expanded Food and Nutrition Education Program.

I think it would be fair to say that the proposal does have mixed reviews. But it is there to try to build upon the notion that in some States there are considerable State funds being put into the Expanded Food and Nutrition Education Program, and this would be a further expansion of what is already going on.

Senator BURDICK. What if the States cannot afford to meet the matching requirements? Would EFNEP services to such a State be somehow limited?

Dr. **Johnsrud**. If we follow the matching requirements we have for the rest of the funds, that would be true, that we only allocate where there truly is a match.

Senator **Burdick**. You are setting such a strong foundation as EFNEP is based on volunteers and local inkind services. Could not a diminished Federal role be detrimental to the continued confidence in EFNEP?

Dr. **Johnsrud**. Certainly, Mr. Chairman, that risk exists whenever attention is given to some issue by Federal funds. It can send a signal that perhaps it is not as important; however, that is not the signal we are trying to send here, Mr. Chairman.

### SAFFLOWER RESEARCH

Senator **Burdick**. I recently visited with some safflower growers who were expounding the virtues of their crop. Safflower produces highly unsaturated oil and plays a role in reducing blood cholesterol levels. The safflower plant is resistant to the Russian wheat aphid, is quite drought tolerant, and helps control and reclaim saline seeps. Are you doing any research on safflower? If so, where? And do you see how safflower is a viable alternative crop? Who is the safflower expert?

Dr. **Plowman**. Yes; both in Pullman, WA, and in Sidney, MT. We are cooperating with the State Agricultural Experiment Station there and have done some considerable work over the years in determining if that crop is one that will compete with other crops in that part of the country.

We have had cropping systems there, then, some fertilizer work, and some breeding evaluation with safflower. At the present time we have about $160,000 of our budget going into that effort.

Senator **Burdick**. What budget money?

Dr. **Plowman**. $160,000.

Senator **Burdick**. Where does it come from?

Dr. **Plowman**. It is part of the money that we have devoted to new crop efforts.

### RURAL RECOVERY PILOT PROJECTS

Senator **Burdick**. Let's turn to our rural recovery pilot projects, which help distressed farmers develop financial plans, improve the management strategies, and retrain those who need alternative income sources. The budget eliminates $3,350,000 for these projects as well as $1,425,000 for financial managements.

If these grants and funds are eliminated, where can a distressed farmer turn for this type of assistance?

Dr. **Johnsrud**. I believe you are referring to two sections in the Extension Service budget. These funds were extremely useful during the very stressful days of the early eighties. Much of the effort from that has been folded into the existing ongoing farmer management programs of the State extension systems. That was the reason we did not include it in the budget, but it had served a very useful purpose.

Senator **Burdick**. It was not abandoned; it was folded in with another program, is that right?

Dr. **Johnsrud**. Yes, Mr. Chairman, we are expecting to see States continue that work using other funds.

Senator **Burdick**. There will not be any reduction in the effort in that program, will there?

Dr. **Johnsrud**. Mr. Chairman, I think that the effort probably reached its peak in the early to mid-eighties. The demand has not been quite as great as during those peak times.

### LOW-INPUT AGRICULTURE

Senator **Burdick**. This year there is a special earmarked funding for low-input agriculture. I understand that USDA has sponsored two conferences recently on low-input agriculture. Is the Department supportive of the goals of low-input agriculture? Does this research not go hand in hand with water quality research?

Dr. **Jordan**. Mr. Chairman, you are probably referring to part of the Cooperative State Research Service budget. The goals established are a priority for the U.S. Department of Agriculture, and we have been giving leadership on a national basis to the implementation of this program.

What has also happened is that there is a great deal of interest within the States and the State Agricultural Experiment Stations and, therefore, State funding has followed into this area as well. We have seen substantial shifts of funds within the State Agricultural Experiment Station toward these goals, and we expect to see that effort continued into the future.

### WATER QUALITY

Senator **Burdick**. How much of the money in the budget for water quality, and particular the $19 million increase, will be used on low-input research methods?

Dr. **Jordan**. Actually, the water quality monetary commitment that is identified for CSRS of $6.7 million is not really earmarked for low input sustainable agriculture. There is an overlap between these two areas, but they are quite distinct and separate. The low-input agriculture arena, Mr. Chairman, attempts to minimize, or not use, fertilizers and pesticides and recognizes numerous other factors of reduced off-farm inputs and substitution of labor for chemicals and many other areas of input cost are addressed in that program area. The water quality program addresses issues of chemical transport from agricultural land by water runoff and buildup of excess soil and water pollutants contributed by nitrogen fertilizers, pesticides and wastes, their reactions in soils, movement and their impacts on water quality. So, there is an overlap, but they are distinctly different.

Mr. Chairman, there has been about 600 scientist-years in the State Agricultural Experiment Station system working on water quality. This would be all sources of funding and a scientist-year is defined as a scientist and the support staff for that scientist for a whole year's activity. It involves about $73 million worth of non-Federal funding, along with about $20 million in fiscal year 1989 of Federal funding for the SAES's, plus appropriate moneys in the Agricultural Research Service and in the Extension Service.

Senator BURDICK. Would ARS and Extension like to speak to this point?

### ARS RESEARCH ON LOW-INPUT AGRICULTURE

Dr. PLOWMAN. Yes; we have at the present time about $15.6 million involved in ground water and water use sufficiency-type research. And there is some overlap between the low-input program as it relates to the use of pesticides and nitrates.

As Dr. Jordan mentioned, in the low-input area we are also looking at reductions in water, equipment, energy, labor, tillage, and other things in addition to pesticides and fertilizers.

Senator BURDICK. Extension is up to bat. How much of the money in the budget for water quality and particularly the $19 million increase will be used on low-input research methods?

Dr. JOHNSRUD. Mr. Chairman, the specific increase for the extension system, is $5 million. We are currently operating with $1.5 million. We are requesting $6.5 million.

We are going to target several areas, and I want to take this opportunity to comment that we are working very closely, in addition to the overall USDA coordination, with the Soil Conservation Service as they take on the technical assistance, and we have the education, information roles. That is a very close working relationship.

We would use these funds in several areas. One is that we would enhance the funding for the Pesticide Applicator Training Program, which is an important program that trains commercial and private applicators.

Second, would be onsite demonstration projects in concert with the Soil Conservation Service at various locations around the country to demonstrate these research techniques and how they can help apply to the water quality issue.

Third, the specific focus on low input is there, but like my colleagues, one area that we deal with through a program called Integrated Pest Management has to do with minimizing inputs for economic and environmental purposes. We are not proposing within this $5 million increase any specific purpose for what you are terming low-input sustainable systems. It is focusing on the broader issue. Low input is an important part of water quality, but it is not a part of these moneys.

Senator BURDICK. Joining us at the table is a gentleman from Idaho, who has long been a friend of agriculture, and I now yield to you.

### STATEMENT OF HON. JAMES A. McCLURE, U.S. SENATOR FROM IDAHO

Senator MCCLURE. Thank you very much, Mr. Chairman. I do have a number of questions. I will ask unanimous consent that that portion which I do not take the committee's time to verbalize at this point be placed in the record and the responses to questions then placed in the record when received.

Senator BURDICK. Without objection, so ordered.

[The statement follows:]

### STATEMENT OF SENATOR MCCLURE

Mr. Chairman: Gentlemen, I appreciate your attendance here today to explain the administration's budget and to answer questions from members.

Mr. Bentley: I applaud the administration's efforts to provide adequate resources for water quality research and the cooperative efforts of ARS, CSRS, Extension, the EPA, and the Department of Commerce. Water quality is important to all Americans, especially rural Americans who obtain most of their drinking water from ground water. I hope that the data gathering, research efforts and solutions to ground water contamination problems will be carried out with common sense and sensitivity to the needs of agriculture. I appreciate your statements for the record which state that science and education will pursue approaches which will be voluntary, which allow farmers and ranchers to make appropriate, informed decisions on land management questions, not use the heavy hand of regulation. I hope you mean that.

As you so aptly noted, pesticide programs are closely related to water quality issues before us. Many researchers feel that agriculture chemicals move into the water supplies and contaminate groundwater supplies. I am glad to see that you are proposing continued designated funding for integrated pest management and pesticide impact assessment projects. I hope that your Department will also recognize that biological control measures and integrated pest management programs may not always provide the answer to keeping pests to levels which do not cause economic disruption in agriculture. I have firsthand knowledge of the damage insects can do if not controlled by chemicals—in 1985 and 1986 a plague of grasshoppers descended upon my State of Idaho and would have destroyed our agricultural base unless an effective chemical control was used. Fortunately, there was one; but if we had used only a biological control, I know farmers in my State would not have had any crop. We must remember to look at chemical and pesticide use in agriculture today using a risk benefit ratio. This will help keep American agriculture competitive in an ever more competitive global market.

I agree with the overall focus of your Department. Increases in competitive grant programs is needed, as is the development of new researchers from all agricultural schools. The Matching Grants Program is a sound one and will help involve States in research programs of importance.

## PLANT GENE MAPPING

Senator McClure. I am interested in the plant gene mapping proposal you mentioned in your statement, and I would like to followup just a moment on that because the proposal would begin a new joint effort with the land-grant universities to map gene sequences of important crop plants.

What plants are identified in the plan?

Dr. Bentley. Let me start with a few comments. At this point we use the generic term economically important crops as the ones to be looked at. We are really in the first incremental step of looking at this particular undertaking because it is going to be one of long-term commitment, I think, once we go into it.

We want to have time to assemble into more of a concerted effort the work that is already being done on plant sequence of some of the important crops such as corn, rice, and soybeans. That would be three that come to mind, and there are probably others as well that I do not think of right at the moment.

We want to start with developing the base for this, and that is why we are asking for an additional allocation of $100,000 in the Agricultural Research Service budget to begin the planning process, because we think that from the standpoint of the Department and the Congress, we need to have a better laid out plan as to what we want to do so that we can address this in future years.

Now, as to the crops, I guess I will turn to my colleagues, if they can be a bit more definitive, but I do want to stress the fact that this is the incremental step in the beginning phase, rather than saying that we need a very large project with a very large outlay of money without having done the planning involving the scientists in helping us plan a direction for the program.

We put in the word economically important crops because we think this is what agriculture has dealt with and talks of plant breeding, and we do not limit—I suppose we limit only on the basis that some crops seem to be easier to begin the process.

I think there has been some work done with soybeans already that suggests one can make some more rapid progress in terms of identifying sequences and indicators of sequences. I understand the words, but I do not remember all the terms that define these, but I believe this is a good way of describing it.

I think this is an exciting development but, again, it is one that should be planned carefully and, as we go ahead, get better ideas of how we can target the resources that we have to make the most progress.

I would like to turn to Dr. Plowman and Dr. Jordan to see if they have any additional comments.

Dr. PLOWMAN. I might comment that there are bits and pieces of work going on, not only in this country, but in others on wheat, soybeans, barley, peas, corn, most of the important crops, and part of this planning process would be to assess where we are and define the technology that is needed in addition to that work. And try to develop a coordinated plan that we might attack the problem in some manner that will yield better results.

Senator MCCLURE. Dr. Jordan.

Dr. JORDAN. Senator, I think wheat will be a major crop addressed in this arena because we know so very much about it and we depend so much on it. The State Agricultural Experiment Station system is fully in support of and will be a party to this assessment.

It is important to ascertain what the costs of doing plant genome research will be so that in the future we can advise Congress, crop by crop, of our estimates of the cost of accomplishing that because if we move ahead, it is terribly important as a foundation for the biotechnology kind of research. We need to know where the genes are if you are going to move them or target a particular response. You need to know where the gene is in the genome.

Senator MCCLURE. I get from the response that this is a very early and fairly tentative proposal that you are still trying to identify what ought to be done.

Is it at all appropriate at this time to ask which land-grant universities have been identified for inclusion in this cooperative program?

Dr. JORDAN. There are a large number that have some competencies in this area, Senator McClure. I think at the moment we have not made any attempt to specifically identify those yet.

Senator MCCLURE. The smaller the program, the more winnowing you are going to have to do.

Dr. JORDAN. That is correct.

Senator BURDICK. We will help you out.

Senator MCCLURE. That is what they are afraid of. Well, it is an exciting program, and I think it is one that ought to be expanded and will be expanded. I applaud you for your beginning efforts, and I want you to know that I am very much interested in the program and how it develops and what we can do to assist you in a very constructive sense in getting that job done and done well because it could absorb immense amounts of money which is not available. And with the limited resources that we are going to be able to devote to it, it seems to me imperative that we be very careful how that is done.

### PLANT SCIENCE RESEARCH

Dr. Plowman, I have a few questions of you concerning the Plant Science Research Program. The proposed budget for the Plant Science Research Program of ARS would increase funding by only two-tenths of 1 percent from $214 million in fiscal year 1989 to $214.4 million in fiscal year 1990.

Do you feel that a budget which does not keep pace with inflation is adequate to meet the plant science research needs of the Nation?

Dr. **Plowman**. Well, that is a very difficult question because in plant science there is probably no limit to what we could do with unlimited resources.

However, in looking at the priorities which we have in the existing programs and the limitations that we are under, that was our assessment to ask for that.

Senator **McClure**. But you referred to the limitations. You are under no budgetary constraints given dollar figures that are given to you rather than being developed from the bottom up?

Dr. **Plowman**. That is correct.

Senator **McClure**. The reason I asked the question is relatively obvious. I do not think we have overspent in this field in the past. I think you would agree with that. And a program that does not keep pace with inflation is in real terms a shrinking program, and the need is not less. The resources are.

Dr. **Plowman**. That is correct, and it is a very serious problem that we have in our agency.

As we have looked at major issues that we have to face in the future, one is that we do keep up with the cost of doing business. We have 240 scientists less than we had just 5 years ago, so that is a very serious concern.

### RUSSIAN WHEAT APHID

Senator **McClure**. The Russian wheat aphid which poses a serious threat to wheat and barley has spread rapidly through virtually all of the major small grain producing areas of the Western United States, including Idaho. The ARS is to be commended for taking the lead role in combating this pest.

Redirecting resources into research efforts in the area of biological control, host plant resistance, and basic Russian wheat aphid biology, as was outlined in your December 1988 report, ARS Action Plan for Russian Wheat Aphid. According to this plan, and I quote, "Barley sustains more damages from Russian wheat aphid feeding than do any of the other small grains. Efforts toward developing resistance in barley need to be increased soon, and evaluation of the world barley collection should be initiated as quickly as possible."

It is my understanding that RWA Host Plant Resistance Program at the USDA ARS Plant Science Laboratory at Stillwater, OK, is primarily directed at screening the world wheat collection with little or no screening for the world's barley collection.

What plans does the ARS have for screening barley germplasm for resistance to Russian wheat aphid?

Dr. **Plowman**. That is certainly a serious problem and we are very much aware of it. Barley is a very susceptible crop. We have directed almost $1 million toward the Russian Wheat Aphid in the agency and as you correctly mention, in Oklahoma we are looking at resistance to wheat aphid in wheat. We have recently, in visiting with the crop improvement committees in barley, been looking at a proposal to speed up the evaluation in barley varieties that we have.

Senator **McClure**. Could the barley screening be conducted in a cost-effective manner by assigning a post-doctoral research associate dedicated to barley to this facility?

Dr. **Plowman**. Yes; that is one of the very specific proposals we are looking at. I should add that we are doing work now. It is not that we have not done anything. In fact, in screening the barley germplasm, we have already looked at about 500 lines, different sets of germplasm in barley and we have found some resistance there. So that is an ongoing program.

Senator **McClure**. Where has that work been done?

Dr. **Plowman**. It is being done in Stillwater, OK.

Senator **McClure**. Development of host plant resistance and biological control represent future solutions to the threat posed by the Russian Wheat Aphid. Currently, the Russian Wheat Aphid is being controlled with insecticides. The ARS effort at the Northern Grain Insect Laboratory in Brookings, SD, is in part directed at screening insecticides for wheat. Will this program be broadened to include insecticide research with barley?

Dr. **Plowman**. Well, the insecticide work is not crop specific. It is more, the insecticides work on the aphid themselves, so that applies to both wheat and barley. I should mention too, however, that the biological control efforts are a high priority in ARS and we are looking at those efforts for the Russian Wheat Aphid.

Just this past year we released seven parasites and five predators in various States in the country and we will be assessing this year whether those organisms have multiplied and persisted in the environment. We are also doing some more work in foreign laboratories, looking at other biocontrol agents. So that is a very important program for us.

Senator **McClure**. Thank you very much, Dr. Plowman. I am very much interested in what is done, because it has tremendous implications for this country. I do not think we can overestimate nor overstate the threat to the small grain areas of this country from this introduced pest. I think it is urgent.

## TCK SMUT RESEARCH

Dr. Jordan, I have just one issue area. Mr. Chairman, I would like to address Dr. Jordan. It is a very recent development. As I understand, the TCK smut has been found in a September cargo of soft red and hard red wheat loaded in New Orleans and Houston and shipped to China. TCK smut has not been a problem for Midwest or Eastern wheat until now.

It has been, and remains a problem of wheats raised in the Pacific Northwest and has been the major roadblock keeping Pacific Northwest wheats out of Chinese trade, although the Federal Grain Inspection Service has identified three areas of concern, namely whether China's climactic and soil conditions make them susceptible to getting TCK smut, whether treatment of TCK-infested wheat will enable export to China, and whether the Chinese are using correct identification of TCK telespores. It is apparent to me that additional research is necessary to deal with this problem. Do you foresee any increase in the funding levels of TCK smut research through CSRS?

Dr. JORDAN. What we are seeing, Senator, is a focus on new varieties that are resistant. We do have about 24 million dollars' worth of non-Federal funding on wheat research in general. A part of that research in the Northwest States of Oregon, Washington, and Idaho, is directed toward the TCK smut problem. Overall we have not asked for a particular increase for this program. We do think it will increase in terms of State funding that goes into the program.

Senator MCCLURE. Well, I wonder. It has been a regional question as you have identified, primarily identified with the Northwest and our shipments to the Orient. I understand that when it is a regional problem it does not get the same focus and attention as when it is a larger, nationwide problem. We have been able to satisfy some of the concerns of the Chinese by shipments out of the Midwest through the gulf coast ports.

If this is really true, what I have been advised, they have now found some of this smut in New Orleans shipments. Coming out of the Midwest, it is a much broader problem than just that associated with the Northwest markets and I wonder if indeed this is true that we have a much broader national problem than we had, if the funding that we are directing toward it is adequate to meet the newly emerging question with respect to our wheat exports.

Dr. JORDAN. I think you bring a very good point to bear, Senator. Namely, if a problem instead of waning as we have seen in recent times begins to expand again, we will certainly have to shift resources to increase that effort; yes, sir.

Senator MCCLURE. Is this not generally the case, when you find a little smut in one place you find a lot more when you start looking?

Dr. JORDAN. It generally is so; yes, sir.

Senator MCCLURE. I am not even talking about the Tower investigation.

Dr. PLOWMAN. I might comment on the TCK smut problem. At Aberdeen, ID, we are managing a smut nursery there and the purpose is that all of the breeders in that part of the country can submit their breeding material or lines that they may be releasing in the near future and they are challenged with TCK organisms to determine the resistance. So that is serving a very good purpose.

There is some confusion in the identification of TCK as compared to other kinds of smut. We have sent one of our scientists to China several different times to examine the smut spores that are found in the wheat there and to clarify that issue.

It would not be surprising to us if there have been shipments from other parts of the country having the smut spores, because if that ship had been used at a previous time, then it would be contaminated, or could possibly be contaminated and it would not necessarily be because the wheat in another part of the country was infected. So that is a complicated issue and we are certainly aware of the problem.

Dr. JORDAN. Incidentally, Senator, some of the barley breeding programs to breed in resistance have brought us nearly immune barley. We have great hope that the approach that has been put into motion will be successful.

Senator MCCLURE. Thank you very much. I appreciate the answers to our questions. I would appreciate the response to the questions submitted in writing. Thank you very much. Thank you, Mr. Chairman.

Senator SPECTER. Mr. Chairman, I wonder if I might have just 30 seconds to submit some questions for the record because I regret that I cannot stay longer. I yield back the balance of my time. Thank you.

Senator BURDICK. Kerrey of Nebraska. Senator Kerrey.

Senator KERREY. Mr. Chairman, I would like to submit some questions in addition to ones that I will ask this morning.

Senator BURDICK. Without objection, so ordered.

### SUSTAINABLE AGRICULTURE

Senator KERREY. I have reservations about the assertion you made earlier that the deletion of sustainable agriculture as a separate line item will not result in a deterioration of effort in that area. I hear Secretary Yeutter I think correctly talking about the need for the market to return a profit to the farmer.

I heard former Secretary Lyng in the spring of 1988 in a letter that he sent to a conference on sustainable agriculture say, and I would paraphrase at the risk of missing perhaps a word or two, that we are not going to produce our way out of this problem. For environmental reasons and economic reasons the need to produce for profit will dictate lower usage of inputs.

I am concerned because I see a considerable amount of momentum in any bureaucracy and I do not use the term "bureaucracy" in a pejorative way. I think that momentum in fact is continuing toward assisting in increasing production and yields, not in increasing long-term profitability and certainly not in the area of sustainable agriculture.

I want to respectfully voice my strong disagreement with your statement that the deletion of this line item will not deter our effort to move in a direction that, by the way, many farmers themselves think we ought to turn.

This is not a direction that I have chosen as a consequence of something that I think is politically popular, but this is what farmers and ranchers are doing themselves and I happen to believe that the Government ought to support the effort of the people. Right now producers are increasingly looking for ways to sustain themselves in a profitable fashion and get their income from the marketplace. I disagree rather strongly that this deletion will not deter that effort.

Moreover, you state on page 10 of your closing remarks that the sustainable management system remains an important component of your research and extension program and that there will be $175 million allocated to this effort in 1989. Can you tell me how you have determined that figure? What programs do you include to reach $175 million? I assume, Dr. Bentley, I am talking to you mostly.

Dr. BENTLEY. Well, I do not know at this point. I cannot outline each one of them, but these are the funds that have been looked at in terms of direct and indirect support for it. That is, when you talk about farming systems, management systems and all of the various things that fall under the category of contributing to this issue.

We are in the process of re-reviewing all of these so that we can be a little more specific on these questions because of your concern for sustainable agriculture as you already know, and I agree with your concerns here and that is why we have put so much effort in getting some additional discussions about sustainable agriculture and holding conferences, et cetera. We need to get a more defined statement as to what these funds are. If we cannot do this now we would be glad to supply detail as to the breakdown by agency. Some are in the area of the Agriculture Research Service, some in the Cooperative State Research Service and some in the Extension Service. We have a special unit in CSRS headed by Dr. Paul O'Connell who is here and is looking at these issues and assisting the groups throughout the United States, farmers and others, as they talk about and consider issues that they think are important to a general concept of sustainable agriculture.

Senator KERREY. Again, respectfully, I think there is an urgency for us in government to try to make some adjustments so as to assist people who are trying to apply these sustainable agriculture practices.

Moreover, I think the general public still has some difficulty with the term. They hear sustainable agriculture and are apt to form an impression of guys with ponytails and beaded shirts and guitars in communes from the 1960's, and that in fact is not what one observes when you see family operators out there using sustainable agriculture techniques. So I feel rather strongly that that separate funding is important.

## ALTERNATIVES FOR SUSTAINABLE AGRICULTURE

Dr. PLOWMAN. Mr. Kerrey, I might make a comment from ARS. Although we have not used the words in our program description, we have a large component of research in sustainable agriculture. We call it alternatives for sustainable agriculture, and many of the things that ARS does for the farmer is to look at alternative practices that he might use to either lower his cost or increase his profits in some way.

For example, the one that very clearly addresses the issues of pesticide contamination is biological control of weeds and insects and that kind of research that would have the purpose of reducing inputs in pesticides and still getting the job done in controlling those problems.

We are doing a lot in water use efficiency, irrigation practices again to reduce the contamination of ground water with nitrates. We have a paper that we would be glad to submit that outlines the program that is described under sustainable agriculture.

Senator **KERREY**. I have seen and I, in fact, participated in some of the work done in irrigation management, minimum till and other efforts to reduce inputs and I believe some of the work that has been done is very impressive.

But I am also very conscious of the fact that once a resource has been used you can no longer conserve it and so what I am trying to express to you here today is an urgency to respond as aggressively as we can. I think it was the second or third paragraph of Secretary Lyng's letter to the Sustainable Agricultural Conference in the spring of 1988 which was remarkable.

If you show that paragraph to people they would be surprised to find it coming from Secretary Lyng, which is a measure of what is going on in the field. It is an indicator of what the people themselves out there are doing.

### RESEARCH OBJECTIVES

One additional question. Do you see the need, as I do, to attempt to develop—for lack of a better term and I do not mean to hide the difficult political choices behind it—a coordinated research plan for the United States that would enable us in a cooperative way not only to share research conducted at land grant institutions, but make some judgments about how to apply and how to transfer research, similar to what was attempted by Bill Norris through the Midwest Technology Development Institute that involved, I think, 11 or 12 land grant colleges in the middle 1980's.

Right now, representative democracy in general determines how research is directed and I do not see in my quick look at your testimony a 5-year plan to coordinate the research with a clear sense of purpose regarding what it is we are trying to do.

I hear water quality mentioned, which I acknowledge is extremely important. I hear some other things that are important, but I do not get a coherent picture of what the research plan is. Am I just reading it incorrectly? Is there such a thing?

Dr. **JORDAN**. Senator, in your packet for the State Agricultural Experiment Stations you will see a tan document entitled Research Initiatives. It is dated January 1989. It is the strategic plan for the State Agricultural Experiment Stations. It is built in consort with the Agricultural Research Service, the Economic Research Service, and the forestry research programs of the Department of Agriculture. It outlines 21 major initiatives laid out in priority order with costs and specific objectives identified. This is the fourth year of the quadrennial process for the State Agricultural Experiment Station planning system. In 1989, the process will begin anew, not with just a modest update and adjustment, Senator, but completely overhauled. Over 600 different commodity groups and organizations will contribute to the establishment of priorities and needs for the system. When we come before you a year from now, Senator, it will be an all-new plan. Every other year there will be a major adjustment to that plan. In the odd number years minor adjustments are made.

A meeting is scheduled later this year to overhaul the plan, and Agricultural Research Service planning staff will be present; and as ARS is updating its 6-year plan we from the SAES side of the House will also be involved in their strategic plan as well, Senator. The research plan is better than perhaps is visible from the testimony itself, however the plan is in the supporting documents.

Senator **Kerrey**. I appreciate that. I will read it carefully. I strongly support both basic and applied research in the land grant colleges. But I have witnessed a difficulty at the State level in targeting that research effort in some way.

For example, I understand that outcomes cannot be predicted but I also understand and appreciate that communications technology has made it possible for us to coordinate that research effort in ways that might not have been possible 30 years ago and I very often see more silence between the University of Nebraska and Iowa State and Purdue and other land grant colleges than I would like to see.

I have, as well, an abiding concern about the sale of technology if inappropriately done and done at too low a price and as a result I will read this very carefully and I would expect to be in fairly constant contact with you as you continue what you are doing.

Dr. **Jordan**. In fact, Senator, if a briefing on the coordination mechanism would be helpful we would be pleased to do that. Among the mechanisms that are used are over 250 regional research projects that are operative today. These generally involve an average of half a dozen or more States.

The north-central region has a number of these projects. They do not work perfectly, but they are a major attempt to be sure that work going on in contiguous States and across the Nation is coordinated through common planning and a common execution plan.

We also have the Current Research Information System in which 20,000 currently active projects are maintained with up-to-date files as to their accomplishments as well as their specific objectives and approaches to research problems. This file is open to the system. As a matter of fact, most institutions, I think the University of Nebraska is one of them, requires its investigators to search CRIS before initiating a project.

Senator **Kerrey**. I would redundantly state for the record that I believe the deletion of sustainable agriculture as a separate line item is a mistake. That makes it difficult for us to encourage the effort. It makes it difficult for us to explain what it is about. There is unquestionably in the United States of America today an intersection of two interests.

One is environmental—increasing concern for the quality of water and soil that we have ignored far too long—and the other is economic, because producers understand that their operations have to be profitable. One of the ways that one obviously works toward securing profits is to be concerned about the cost that you incur in producing a product. I feel very strongly about that, and I will continue to press you and Secretary Yeutter to get that done.

## LOW-INPUT AGRICULTURE

Senator **Burdick**. Senator Kasten.

Senator **Kasten**. Mr. Chairman, thank you. I might just say that the concern on low-input agriculture is a concern a number of us on this committee share and I would like to associate myself with the views just expressed by the Senator from Nebraska.

## GROUND WATER QUALITY

My understanding is that the chairman touched on this whole ground water question in his questions and so I just want to build on what he said. I have a concern here, too, and what I am particularly concerned about is results. We have books and extensive plans. But we also have got to move forward and I think that whatever we do has to include not just a national focus but also a State focus.

It is my understanding that right now there is no funding for ground water research under the Competitive Grants Program. The effect of this will be that the ground water funding and research takes place as a national initiative and there is no money to support the State research that makes the national initiative applicable to individual parts of the country.

I think that the problem is different in the upper Midwest than in the Southwest or in the Southeast. So based on the fact that, at least in my State and I believe in a number of other States, demonstration projects have shown profitability, have shown enhanced water quality, and have shown protection of the land base.

We have shown this with our initiatives and it seems to me that you ought to have not only a national initiative but you also ought to involve the States in this process. I think that is probably a question for Dr. Jordan but there are a lot of nods back and forth that each of you can reply.

Dr. **Plowman**. Before you respond, let me just say one thing. As we conceived the Federal program, as it is related to internally within the Department of Agriculture and other Federal agencies involved, it is fundamentally a program to support the States. States have the basic responsibility for water management in this country.

Senator **Kasten**. Am I wrong, sir, that there is no funding for ground water research under the competitive grants?

Dr. **Plowman**. Well, let me ask Dr. Jordan to respond to that specifically.

Dr. **Jordan**. There is a CSRS Program on ground water quality research in fiscal year 1989. Agreements with the States will be awarded on a competitive basis, and in fact, we received 240 proposals for the $3 million. We will be awarding about 20 projects in this area. These projects are awarded on a competitive basis, even though they are not under the Competitive Research Grants Program. This process fits with State objectives.

Senator **Kasten**. I appreciate your answer to my question and I believe this is an area that I think is particularly well suited for work State by State or region by region.

I do not disagree with what the gentleman from Nebraska said. Maybe the upper Midwest can work together on some of these issues. Clearly, ground water does not understand a State line, but the fact is that this is an issue that not only should have a national but also needs, I think, a State focus. I appreciate your response to my question.

### ANIMAL HEALTH RESEARCH

Let me ask Dr. Jordan another question on a whole different area. In your budget justification, you particularly cite the fine work of researchers who have been working on Johnne's Disease and yet at the same time later on eliminate for fiscal year 1990 the animal health and disease research funding, that is section 1433, which is the same funds that sponsored the research that earlier on you are commending.

The increased money and the Competitive Research Grants Program does not, in my opinion, compensate for this loss. What is your reasoning to be working in one side saying that the programs are successful and later on cutting back on the seemingly successful program?

Dr. JORDAN. The major increase you have identified in the Competitive Research Grants Program for animal sciences is $8 million above the current fiscal year. It is principally targeted for animal health and disease research. Grants will be awarded on a competitive basis as well. We are really talking about a shift of programs from one category or one authorization to another authorization. This does have, Senator, the full support of the deans of veterinary medicine across the United States.

Senator KASTEN. Well, it seems that I have gotten in a sense the same answer to both of my questions and that is that the money is there, but it is just not there where it was last year and it corresponds to the answer you gave to the gentleman from Nebraska when he was talking about a line item for low-input agriculture.

I am not going to quarrel with you at this point, but it seems to me, Mr. Chairman, that we in this committee are going to have to go through these areas line by line and if, in fact, what you had here is now over here and the emphasis on the program has not been lessened, then I do not think you are going to have quarrels.

But if by shifting these categories you are trying to downplay certain priorities which we in both the Democratic and Republic Party in both the House and the Senate have had, then I think we are going to have to do a lot of work in terms of reworking these different categories to make sure that we have got the kind of emphasis that we believe is important.

### BIOTECHNOLOGY CENTER

Let me ask one question having to do with the University of Wisconsin. We have been active in biotechnology for years. We are now looking at efforts to house a major research effort that has been going on and as you know, this probably is to Mr. Plowman, last year $50,000 was devoted to a feasibility study for a biotechnology center at the University of Wisconsin.

My understanding is that this study is not going to be completed until later in the summer—maybe in the early fall—which would mean that the study to find out if we need to go forward will not be completed in time for the appropriations process. What is the schedule for this study at this time?

Dr. **Plowman**. That is Dr. Jordan's activity.

Senator **Kasten**. Dr. Jordan.

Dr. **Jordan**. You are correct, Senator. Funds were appropriated to ARS and then transferred to CSRS because it involves a university.

Senator **Kasten**. I'm having trouble with which department everyone is in.

Dr. **Jordan**. You are absolutely correct, but it was given to us for administration. This week, we have completed and signed off on a cooperative agreement with the University of Wisconsin to launch this project. It is under the direction, from the university's point of view, of Director Lower. The plan is to have the proposal reviewed by late spring if at all possible, if the university can move fast enough in preparation of the proposal. We will have a site visit with a group of scientists from around the country. We would like you to have the results of the feasibility study before midsummer.

Senator **Kasten**. That would be very helpful. Let me say that I will work with the gang back there to make sure they are as responsive as they possibly can be. There is a third element of this, as you may or may not know, and that is the State, and if we are able to put together a package here it would be partly the university, partly the State of Wisconsin and partly Federal, so the faster we can know what we are looking for, the more likely we are to put together all the pieces so that we could in fact move forward on it and hopefully include it within this appropriation cycle. I know we have had strong support from the Congress.

## STRATOSPHERIC OZONE DEPLETION

Finally, I am interested in the progress of research on stratospheric ozone depletion. Last year, my understanding is that you received $3.7 million. This year your request is to double that and my understanding is that you are focusing primarily on the impact of increased ultraviolet light on plant life. What is the status of this research, and do you see ozone depletion affecting U.S. crops in the near term? I think that would be to—who?

Dr. **Jordan**. I would be glad to respond to that, Senator. Earlier this year we conducted a major review meeting at the University of Florida in which not only the research community of the United States, including the universities and the Federal laboratories, but also the regulatory agencies that are intimately involved and concerned about this, particularly the EPA, did two important things. The first one was to ascertain the status of our knowledge base—what we know now and where the holes are in that knowledge base. The second was to set into motion the specific plan of action for the fiscal year 1989, $3.7 million program in this area. Both of those were set into motion at that meeting and we would be glad to give you a report in detail about that if you would like, Senator.

Senator **Kasten**. I would very much appreciate that, Mr. Chairman. I have a couple of other questions I would like to submit for the record, but thank you very much.

Senator **Burdick**. Without objection.

[The information follows:]

### STRATOSPHERIC OZONE DEPLETION

The FY 1989 deadline for receipt of proposals for the stratospheric ozone depletion and crop productivity program under the Competitive Research Grants Program is April 10, 1989. We have not yet awarded any grants under this program. Specifically, we will be supporting research projects that are designed to understand how plants and/or their tissues respond to UV-B radiation so that we will be able to identify specific biological targets of expected increase in UV radiation. This kind of basic information is needed to monitor possible crop damages due to UV radiation and to predict potential effects due to expected increase in UV radiation.

The Florida workshop covered a wide range of subjects, all relevant to the potential impact of the stratospheric ozone depletion on crop growth and development and on agroecosystems. Several issues have emerged from the workshop including a need for a long-term monitoring of ground-level UV-B radiation, a need to develop standardized and specialized equipment to monitor, measure and apply UV-B, and a paucity of our knowledge about the mechanisms of plant responses in UV-B radiation. While it is clear that changes in UV-B radiation will have effects on plants' growth and development, the available scientific data is not sufficient to predict the precise nature of those effects. It does not appear that the stratospheric ozone depletion alone will affect United States crops in the near term, however, it will definitely be a contributing factor to the global climate changes in a long run. There is critical need for monitoring ground-level UV-B radiation, development of specialized equipment to monitor, measure and apply UV-B, and tests to measure agricultural crop responses to UV-B, including impacts both on growth and yield economics. The most important conclusion from the Florida workshop in terms of our research effort is that the UV-B radiation is only one of many changing environmental factors that will have a significant impact on our agricultural productivity, and hence UV-B effects should not be studied in isolation. In order to assess and predict the long-term effects of the expected increase in UV-B radiation, we need to understand how UV-B effects interact with the effects of atmospheric ozone, greenhouse gases, drought, higher temperatures, and other global climate changes. We have a lot to learn about the basic mechanisms of plant interactions with the environment such as: light quality, UV-B, different wavelengths of visible light; and light quantity, day length and growing season; water quantity, drought and flood; water quality acidity and nutrient contents; soil nutrition; temperature, and; various gases in the atmosphere. With the increased budget for the FY 1990 stratospheric ozone depletion program under the Competitive Research Grants program, we would like to expand our research beyond the UV-B effects to include other environmental factors.

### RICE PRODUCTION

Senator BURDICK. Senator Bumpers.

Senator BUMPERS. Dr. Jordan, just following up on the questions that Senator Kasten was asking you about ozone. In the greenhouse effect, when you look at the causes of the greenhouse effect one is methane gas. When you look at all the things that cause methane gas, one is rice farming. Needless to say, rice production is important to my State. What percentage of world's rice do we raise in the United States? Does anybody know the answer?

Dr. JORDAN. I do not believe I know.

Senator BUMPERS. Let me ask you a second question. Do you know——

Dr. JORDAN. Approximately less than 10 percent, Senator.

Senator BUMPERS. I think it is considerably less than 10 percent. At one time I think it was probably less than 2 percent. It may be more than that now. But in any event, do you know what percentage of the rice sold in international commerce comes from the United States?

Dr. JORDAN. No, sir.

## 1890 CAPACITY BUILDING GRANTS

Senator **Bumpers**. Dr. Jordan, let me start by complimenting you on your budget, because you have asked for $5 million for curricula development and $10 million for construction for the 1890's, the predominantly black land grant colleges, plus Tuskegee, and we have a very fine, predominantly black land grant university in our State. Am I to understand that that money is going to be put out on a competitive basis?

Dr. **Jordan**. The $11 million program is designed for competition within the 1890 institution system.

Senator **Bumpers**. But you are going to invite requests for proposals?

Dr. **Jordan**. That is correct, and more than that, each institution will be hitched with one or more agencies of the U.S. Department of Agriculture so they will have a partner in this effort. That is a requirement. We are also encouraging the 1890 institutions to link up with other institutions that already have centers of excellence that are appropriate to what is being built at the 1890 institutions. So, particularly for the State of Arkansas, the fact that the University of Arkansas at Pine Bluff is already a part of the University of Arkansas system, should make this a relatively simple task.

We also have in mind certain set-asides so that no institution will be left out of this process at all, and yet at the same time they will hone their capacities to be competitive. We are calling it mainstreaming. We are really talking about bringing into the mainstream of agricultural science this rich, valuable resource in the 1890 institutions.

Senator **Bumpers**. Do you have a shortage of black scientists in the Department of Agriculture right now?

Dr. **Jordan**. Desperately, yes, sir.

Senator **Bumpers**. And a part of your curricula development money is designed to rectify that over the long haul?

Dr. **Jordan**. Yes, sir; and hopefully to bring into the USDA some talented individuals that have emerged from such institutions.

Senator **Bumpers**. I also understand this program is going to require a nonfederal match. Is that anticipated to be a State match?

Dr. **Jordan**. It is anticipated to be a mixture of State and private industry. In fact, we have begun to lay specific plans on how to encourage that so that it does not become a major impediment, but in fact is a leveraging factor.

Senator **Bumpers**. So you have not yet decided what the match should be?

Dr. **Jordan**. The match should be dollar for dollar. It would not be just an $11 million program. Its impact, Senator, should be $22 million. That should be substantial.

## RICE GERMPLASM

Senator **Bumpers**. All right. Dr. Plowman, we have increased our rice yields in the country by 20 percent over the past 5 years. Germplasm research has been critical, and I know that ARS has a germplasm center in Aberdeen, ID.

But in the past you have not been able to evaluate germplasm on rice at Aberdeen. The other small grains you can evaluate there.

The people in Stuttgart, which as you know is the sort of national center for rice growing in this country, are concerned about that. How would you respond to their concerns? Actually, they would like to do their own evaluations in Stuttgart and I would like for them to do so.

Dr. PLOWMAN. Well, it needs to be clearly understood what the germplasm repository is in Aberdeen, ID. It is a facility that houses the various lines and varieties of small grains, including rice. It has environmentally controlled rooms and provides proper storage.

Very little of the total germplasm evaluation is actually done at Aberdeen. In wheat, for example, it is done in many of the other States and by cooperative agreement or working relationships with the State Agricultural Experiment Stations or with ARS people. They would access the collection wherever it might be and make that evaluation.

So having the facility there really has no direct tie to the enhancement or evaluation of the germplasm. It only takes 48 hours at the most, after a request is received at Aberdeen, for a person to receive the germplasm they are asking for. So——

Senator BUMPERS. How important is germplasm research to increased yields?

Dr. PLOWMAN. Oh, I think it is the backbone. The reason we have done so well in this country in increasing yields is that we have had a vast array of germplasm to look at and make improvements in and so I think it is the very backbone, absolutely essential for future crop productivity.

## SCIENTISTS AT UNIVERSITY OF ARKANSAS

Senator BUMPERS. Well, while I am talking to you, the University of Arkansas has never had anybody from ARS stationed on campus. As you know, we now have a poultry isolation unit at the university. We would like to have a couple of poultry scientists.

I am not going to ask you to commit here in front of God and everybody to do that, but I hope you will meditate on this after you leave here today.

Dr. PLOWMAN. I will certainly be sensitive to that.

Senator BUMPERS. We also would like to have a couple of food safety scientists up there to work with the food safety consortium. We are now getting that going. As you know, it is Iowa State and Kansas State who are in that with us. However, I think we are in a little bit of a needless turf fight. That needs to be resolved quickly so they can get on with the work at hand. But those two food safety scientists, experts, and the two poultry disease scientists, I hope you will pray on that very thoughtfully and let me hear from you.

## ALTERNATIVES TO PESTICIDES

Dr. Jordan, I am very interested in alternatives to pesticides. One of the reasons I was questioning you, Dr. Plowman, is because our rice farmers are greatly concerned because we have already banned several chemicals that are going to go to the heart of rice yields. For example, there is a rice weevil, a water weevil, that we had a chemical that took care of that has now been banned. The same goes for blast and sheath blight. So we are concerned about all of that. That is the reason the germplasm laboratory is extremely important to us.

But coming back to you, Dr. Jordan, we are concerned about just how aggressively we are pursuing alternatives to herbicides and pesticides. We are doing alternative research at the University of Arkansas. You were very kind to help me get the program going out there. We think it is a great program. How much money are we spending nationally on research on this problem, if you know?

Dr. JORDAN. Overall in the area of integrated pest management, our program in the current fiscal year has $12.3 million from CSRS funds and another $49 million from nonfederal funds that are going in this area, for a total of about $61 million, plus ARS's efforts and some from industry as well. It is a very substantial one. It needs to be definitely focused and strengthened and it is probably a key to our success in dealing with environmental pollution problems.

Senator BUMPERS. Are these programs in ARS and CSRS and the private sector fairly well coordinated to your satisfaction or is everybody off doing their own thing?

Dr. JORDAN. No, sir; they are well coordinated. We have a special group within CSRS as does ARS, that is responsible for that. We also use the mechanism of regional research projects and in fact IPM, the Integrated Pest Management Program, is designed on a regional basis and there is a plan of work devised each year and approved by the directors—in your area it would be the southern directors concurring on that. CSRS actually runs the review panels for the Southern Regional IPM program and assists those directors in placing that money out across the region.

Senator BUMPERS. Do you have any idea how much emphasis is being placed on substitute chemicals and how much is being placed on genetic research to deal with this problem?

Dr. JORDAN. There is a substantial amount of effort in both arenas. But there is probably more in terms of biological control, in terms of research and also genetic resistance as there is anything else.

Senator BUMPERS. Well, the reason I got hot on this is that the University of Arkansas last year had this program developed and I have never been more impressed with any research on any campus than I was with what some of those people in the College of Agriculture up there were doing in genetic and biopesticide research.

Dr. JORDAN. As you may know, Senator, the University of Arkansas was the place where the first biopesticide was released.

### ATTRA

Senator BUMPERS. Yes, indeed. Now, Dr. Johnsrud, have you seen the letter from NCAT dated March 6, dealing with ATTRA? You asked for justification on its move to Arkansas.

Dr. JOHNSRUD. Yes; we did.

Senator BUMPERS. Have you seen this letter?

Dr. JOHNSRUD. Yes; I have.

Senator BUMPERS. Are you satisfied with that?

Dr. JOHNSRUD. Yes; in fact, I have also had a personal conversation with Mr. Green and I thanked him for his very prompt, very complete response.

Senator BUMPERS. So you are satisfied now about the reasons for moving?

Dr. JOHNSRUD. Yes; with the results of their move. I still have concerns about whether we are in line with the intent of the location.

Senator BUMPERS. I am on the committee that did it. I promise you they are complying with the intent. It is not a jobs program. I had no quarrel when it was in Memphis.

Dr. JOHNSRUD. The response was very complete in terms of the effect on the program and the cost of the move.

Senator BUMPERS. Fine. Thank you very much. Thank you, Mr. Chairman.

Senator BURDICK. Senator Grassley.

## NATIONAL ANIMAL DISEASE CENTER

Senator GRASSLEY. Thank you, Mr. Chairman. I was pleased, Dr. Plowman, to see an increase in the budget for the National Animal Disease Center which is in Ames, IA. I would assume that this increase is related to the ARS's research priorities of diagnostic tests for livestock and poultry diseases, research on bacterial contamination of meat animals and the reduction of bacteria and pesticide residues in meat and dairy products. Is this assumption correct, or is there another reason for the increase?

Dr. PLOWMAN. No, sir; that directly is why we are doing that.

Senator GRASSLEY. Directly related, OK. The National Animal Disease Center was, of course, designed more than 30 years ago. There have been major advances in science and technology as well as requirements for environmental protection and safety in our animal health research needs since then. Have the facilities at the center been maintained to keep abreast with these advances?

Dr. PLOWMAN. Well, we have just finished building an addition there, or renovating part of the building to contain level 4 disease organisms and that is on-stream now, or nearing completion. It will enable us to do some things in the more sophisticated biotech activities than we have been able to do before. What we desperately need, however, to go along with the addition is a new incinerator that will properly dispose of organisms or animals that are contaminated. Other than that, the facilities are pretty good.

Senator GRASSLEY. How much will that cost?

Dr. PLOWMAN. Our estimate is about $2 million.

Senator GRASSLEY. Considering ARS's other building and facility budget requests, how long would it take to complete this facility under the service's regular budget process?

Dr. PLOWMAN. We do not see, under our regular budget, we do not see any way in the near future to be able to do that.

Senator GRASSLEY. Well, let me ask it this way. In the meantime, then, does the age of the present incinerator pose a health threat to the people employed at the center?

Dr. PLOWMAN. It will not present a health hazard because we will not use those kinds of organisms that would present themselves to be a health hazard to people. But it will limit some of the things that we can do and probably should do.

Senator **Grassley**. So badly needed research will be restricted?

Dr. **Plowman**. That is correct. Until we have that facility.

### IMMEDIATE VERSUS LONG-TERM RESEARCH

Senator **Grassley**. I want to visit with you about what you might consider the primary research mission of the Agricultural Research Service. Obviously, I know that you have to strike a balance between research which shows an immediate economic gain and long-term research geared toward productivity. Of these two, however, and I do not want to necessarily limit it to that, but which do you consider to be most important?

Dr. **Plowman**. Can I get away with saying both of them?

Senator **Grassley**. Not really, because I think we need to know some of your thinking on this. It is pretty important to us in the budget process.

Dr. **Plowman**. Well, there are some immediate problems that I think are extremely important and we have to address those. We have a lot of initiatives that are important not only to farmers but to consumers.

The whole food safety aspect. We are hearing lots of things about contamination of dairy and poultry and meat products with antibiotics and hormones and pesticides and bacteria and we have to respond, I think, in a very quick way to alleviating those problems. The ground water initiative is a very serious problem and we have to put resources on those to solve them. They are immediate problems, right here.

I think we would be remiss as a research organization if we did not try to anticipate the future problems and certainly have a cadre of scientists, facilities, and expertise that can address problems as we see them coming up. But if you make me answer that question, I am going to tell you that we had better solve the most serious problems first, the ones that we have right now.

Senator **Grassley**. Well, I think you have answered it. So when you go about spending the money we appropriate, that is a priority for you.

Dr. **Plowman**. Yes, sir; we are very serious about that.

### NATIONAL SEED STORAGE LABORATORY

Senator **Grassley**. Last year this committee designated $2.75 million for the construction of a new national seed storage laboratory at Fort Collins, CO. How has the construction of this facility progressed?

Dr. **Plowman**. The construction has not progressed at all, because we do not have enough money to start laying bricks and mortar. One of our budget initiatives this year is to add another $8.75 million to complete the funding so that we can do that. The planning is all completed now and we will be ready to go forward with construction.

Senator **Grassley**. If you received the full appropriation this year, could this facility be finished in this fiscal year?

Dr. PLOWMAN. It would probably not be possible to complete the construction, but certainly all of the contracts would be let so that those would be started, but I do not know enough about the construction business to know. It would take more than a year to finish the construction I am sure.

Senator GRASSLEY. Do you want to be a little bit more definite in a written answer? I would appreciate that.

Dr. PLOWMAN. We will do that.

Senator GRASSLEY. I am not saying that your answer is not definite enough for our purposes, but if you want to think about it, you can respond in writing.

### SOIL TILTH LABORATORY

A project that I helped start in 1984 along with other Iowa Congressmen and Senators is finally nearing completion, and I understand that the ARS will have a grand opening for our Soil Tilth Center sometime this summer. Is this facility now completely equipped and operable?

Dr. PLOWMAN. This facility is finished. I think the first part of this month we finished that. The dedication, as you mentioned, is scheduled now for July 6, and we hope you can attend that.

Senator GRASSLEY. Well, I certainly did not expect to get an invitation right now, but I will probably be there.

Dr. PLOWMAN. We have funding to employ about 10 scientists there at the present time. We have six on hand, and we are recruiting for the other people that will join us.

However, in the long-term planning of that facility, it has the capacity for about 20 people and with the present funding we have, we will be able to take care of about 10.

Senator GRASSLEY. What role would this facility play in the Department's new water quality initiative?

Dr. PLOWMAN. It will play a very critical role. Since that part of the country is one of the places that has severe problems with ground water and since we have expertise there that will be housed in this new soil tilth laboratory, we expect it will be a key place where we will do research. And part of the funding in the 1990 initiative would go to supporting that ground water initiative in Iowa.

### AQUACULTURE

Senator GRASSLEY. Dr. Jordan, are the needs for aquaculture education and training programs for secondary students and adults in our local communities increasing?

Dr. JORDAN. Senator, the interest is there and support materials are being developed to bring this important area to the attention of students. I cannot in all honesty say that at this time it really is adequate at the secondary or primary level. The Ag in the Classroom Program is one of the mechanisms for bringing this across the country, and it is currently in process.

Senator GRASSLEY. Well, for our most immediate decisionmaking needs, then, let me ask you if funds were available for an education and training program in aquaculture? Can you administer the program?

Dr. **Jordan**. Yes, sir; we could. Extension Service will also be a part of the program, I am sure, Senator.

### IOWA EXTENSION REVIEW

Senator **Grassley**. Dr. Johnsrud, recently the Extension Service in Iowa completed a review of its program. One suggestion based on this review was to consolidate a number of Extension Service offices. Is this type of review being done on a national level?

Dr. **Johnsrud**. Senator, these types of reviews are going on State by State. It is not something we are doing from the national level. There are some States that are looking at various structures and ways to accommodate today's agriculture, but not at the national level.

Senator **Grassley**. But it is being done. Similar studies are being done in other States on a national basis even though it is not being done by you in the national office. Is that what you are trying to say?

Dr. **Johnsrud**. Yes; there are a few States that are currently taking a look at their total structure and arrangement, and one of the questions they are raising is how best to staff field operations to serve today's environment.

Senator **Grassley**. What would be the budgetary impact of this type of consolidation?

Dr. **Johnsrud**. Senator, I can only speak from personal experience where I have been involved as a State director, I have not found that you save any dollars with this type of plan.

Senator **Grassley**. Then let me ask you this. Has there been any impact on the delivery of essential education programs and services?

Dr. **Johnsrud**. The focus when they get into this type of study is how better to serve the customer. One way to look at multiarea staffing or multicounty staffing, that usually includes more specialization. In other words, you specialize a bit more at the local level and that part is focused on better serving commercial agriculture, which is a very intense demand. I could be more specific, but these are the highlights of it.

Senator **Grassley**. I would like to have in writing some detail about the Extension Service's rural economic development program. But for right now could you tell me whether you feel these programs, combined with other rural development efforts by the USDA, adequately address the needs of our rural communities?

Dr. **Johnsrud**. Senator, I would not say that they do adequately address the needs. There is much to be done out there.

We are attempting to increase our capacity to carry out our role, which is helping local leadership at State or county levels to better deal with the issues. For example, a year ago the National Ag Library and the Extension Service created the Rural Information Center. It is much used by State and local officials to get answers to specific questions they have as they look at their community or their State. That is one example of increased capacity to service the local leadership. We do have funding in this year's budget for the rural development centers to continue that as a support mechanism.

Also, we have in our budget the priority initiatives. These are intended to be responsive to pressing issues, and a portion of that $5 million amount could address this topic. We have thought through this whole issue and have some funding requests related to it.

Senator GRASSLEY. I thank each of you for your responses.

Mr. Chairman, I am completed.

Senator BURDICK. Senator Harkin.

Senator HARKIN. Thank you, Mr. Chairman.

### ALTERNATIVE USES FOR AGRICULTURAL COMMODITIES

Dr. Bentley, last year I introduced a bill that was widely supported in the Senate, S. 970. You may remember that bill. It passed in the Senate twice. Basically, it called for an increase in research to explore alternative nonfood and nonfiber uses for crops.

Now, Senator Conrad has drafted some legislation that is sort of a companion measure to that. It is my view that we need to significantly increase the research, development, and commercialization efforts in these areas.

Could you tell the committee what the funding levels have been for research into alternative nonfood, nonfiber uses of agricultural materials over the last several years and at what level you believe funding levels should be for fiscal year 1990? If you do not have the information with you, you may submit it for the record.

Dr. BENTLEY. I have some figures in mind, but I would hesitate to give them. I think we would be pleased to supply figures on this activity.

Now, let me just stress without getting into figures that I think this is a very important area that we should give attention to, and I think as you know, Senator, we have talked about this before. My ideas are the same, that we should look for it. But we have to be very careful that we look into the economics of it, the feasibility of it and be very clear in our goals.

On the other hand, that does not mean that we should not keep working and looking at opportunities. We have seen for example some potential in two or three crops that have been around for a long time. But the situation changes, and that is why we need to work with the economists and with the marketplace. We have got to be sure it is market driven, but also that we provide the technical support, and we would be pleased to provide some additional information.

Senator HARKIN. Of course, a lot of it is in basic research, too. One can't really know what it is going to lead to.

I think Senator Conrad's approach is oriented more toward the commercialization aspect of it. But, again, I just really wanted to know, for every dollar of research done under your jurisdiction, how much of that dollar goes for basic production agriculture research? I mean, this is production agriculture research. That is fine. I have nothing against that.

But when we are talking about producing or we are talking about trying to find out about alternative crops, I would like to know what that breakdown is. Out of every dollar that you spend, how much of it goes for nonfood, nonfiber research into alternate uses of those crops?

Dr. **Bentley**. We have information that would answer that in part. But the question, not only is it on nonfood uses, but also looking at the matter of quality of the product you produce because the consumer today is more health and diet conscious and I think it is good for wellness for American people.

We are concerned about the quality of the product that we deliver. That needs more attention and is getting it. The quality, the convenience of that product—and I am talking about food uses——

Senator **Harkin**. You are talking about food use. I am talking about biotechnology aimed at developing new products like the so-called biodegradable plastic bags and other items that we are currently making out of petroleum products but we could make out of acetate from corn.

### BASIC RESEARCH

Dr. **Bentley**. These are very exciting, some of the work that is being done now is being applied or being applied now, has come as a result of a long-term question. I think Senator Kasten was talking about basic research. There frequently has to be a long time of studies on the fundamental characteristics of the products, the proteins, the carbohydrates in our foods or in our crops to determine what you might be able to do with them in an industrial sense. So, some of those are coming to fruition, but we ought to be doing things today and we are doing things today that we hope will lead to something in the future.

Senator **Harkin**. I will look forward to those figures.

[The information follows:]

ALTERNATIVE USES FOR AGRICULTURE COMMODITIES

AGRICULTURAL RESEARCH SERVICE

| | FY 1988 | FY 1989 | FY 1990 |
|---|---|---|---|
| Nonfood | $25,146,000 | $25,279,000 | $25,279,000 |
| Food | 26,563,000 | 27,003,000 | 27,003,000 |
| Total, ARS | 51,709,000 | 52,282,000 | 52,282,000 |
| COOPERATIVE STATE RESEARCH SERVICE | | | |
| Funds | | | |
| Hatch Act | 5,899,000 | 5,899,000 | 5,899,000 |
| McIntire-Stennis Cooperative Forestry | 1,256,000 | 1,256,000 | 1,256,000 |
| Evans-Allen Program | 706,000 | 733,000 | 763,000 |
| Animal Health, Sec. 1433 | 5,000 | 5,000 | |
| Special Research Grants | 1,349,000 | 1,349,000 | 305,000 |
| Competitive Research Grants | 391,000 | 391,000 | |
| Forestry Competitive Grants | 1,361,000 | | 2,500,000 |
| Total, CSRS | 10,967,000 | 9,633,000 | 10,723,000 |
| Total, USDA | 62,676,000 | 61,915,000 | 63,005,000 |

### PERCENT OF BUDGET IN BASIC RESEARCH

Dr. **Jordan**. Senator, in the State Agricultural Experiment Station system, especially the CSRS budget, for fiscal year 1988, we had 48.9 percent in basic research and the remainder in applied.

Fiscal year 1989 basic research is just a little below that and the estimate for fiscal year 1990 is 54.7 percent.

Senator HARKIN. In basic research?

Dr. JORDAN. Yes.

Senator HARKIN. That could be into production agriculture.

Dr. JORDAN. The issue, of course, was it is fundamental that you do not, that you are not able to focus it directly.

Senator HARKIN. But if the research involves trying to find a new strain of cotton that produces more per acre and has a shorter growing period, you are doing kind of basic research into that.

Dr. JORDAN. That is true.

Senator HARKIN. I am saying basic research that is involved in biotechnology, into new ways of——

Dr. JORDAN. These kinds of things involve an enhanced research agenda for value added food and nonfood uses of agricultural products.

Senator HARKIN. There you go.

Dr. JORDAN. The total for this research in the State system is about $11 million of the CSRS budget.

Senator HARKIN. $17 million out of what? How much is the total budget, 500-and-some?

Dr. JORDAN. The 1989 CSRS budget is a little over $300 million, and the budget for the total system is about $1.5 billion, so your point is well taken. It is still a small piece.

Senator HARKIN. A very, very small piece. We have got to start shifting that. You and I have talked about this many times before, and I have talked about it with the new Secretary of Agriculture. We have got to start shifting that.

Dr. BENTLEY. We agree.

Mr. Harkin, I think that this is a general comment. It came back to sustainable agriculture. It takes a while for changed views to take place, and there has to be some champions for it, and I would hope that the committee realizes that at times I have tried to champion many of these, and I think we are making progress. It may be slow, but I think we are making progress in this direction.

I do not think that everyone can move to something immediately just because one says it. But over time I think we are building a body of data that says that is a good direction to take.

Senator HARKIN. I sure hope so, and I appreciate it, and I have complimented you in the past for your efforts in that area, and I am saying this just to keep the moment, to keep the push going, to keep us driving in that direction.

### KENAF

I also have some questions about kenaf and how that is going. You can respond for the record, unless you have something right now.

Dr. BENTLEY. Very quickly, we are encouraged and we think that there will be some major projects in this area that may be announced within the next few months for kenaf and the use of kenaf in south Texas. That has not been done yet, but we are optimistic that that will take place shortly. There are other States that are looking into the potential of kenaf as a source of fiber, and we are encouraged that there is an industry pull in this area at this time.

Senator **Harkin**. Do you see some developments in the next 5 years?

Dr. **Bentley**. Yes.

Senator **Harkin**. You say you are going to be announcing something shortly?

Dr. **Bentley**. No; we are not.

Senator **Harkin**. What did you say?

Dr. **Bentley**. There is under consideration a major plant, the building of a newsprint mill to utilize kenaf as the source of fiber. The planning is under way by private industry and they would make any appropriate announcement. The planning is well along with a major investment expected. It has not been formally announced that they would go ahead, but all the indications are that it is a viable project that has been looked at.

There are questions about environment. Every time you come up with a facility of that size, there are a lot of questions having to do with local concerns, meeting local requirements. Some of that is taking longer. It is not necessarily the financing of it. But if you would like, we could provide additional details on that particular project.

Senator **Harkin**. Anything else? If not, I'd appreciate it if you could supply the latest on the commercialization of kenaf.

[The information follows:]

### Kenaf

The USDA Kenaf Demonstration Project, in cooperation with private industries, led a project in 1987 which successfully achieved commercial-scale kenaf newsprint manufacture and pressroom evaluation. After this project, Kenaf International and Canadian Pacific Forest Products announced plans to joint venture a $400 million kenaf newsprint mill in south Texas. Today, that joint venture has been joined by other prominent private companies and planning has advanced significantly, e.g. a mill site has been identified and purchased, water rights acquired, preliminary site engineering completed, environmental permits applied for, railroad right-of-way secured, and financing arrangements made. The involved companies will make their announcement after completing necessary business arrangements. This applies to a kenaf newsprint mill or any other kenaf fiber product business.

## CALCIUM MAGNESIUM ACETATE

Senator **Harkin**. One last thing: Is your department doing any research in the area of calcium magnesium acetate? Just let me know if you are doing any research at all on calcium magnesium acetate as an alternative to rock salt.

Dr. **Bentley**. Yes; there is some work being done in this at the Peoria laboratory.

Senator **Harkin**. I do not need a big volume of information, but just a little bit on what is going on in this area.

Dr. **Bentley**. And I think there is some actual use of that product for that purpose right now under way. We will get additional information.

[The information follows:]

### Calcium Magnesium Acetate

ARS scientists at Peoria, Illinois, are developing a new process for recovering acetic acid from corn sugar fermentation. The acetic acid is combined, in a chemical process, with dolomitic and magnesium lime products to produce calcium magnesium acetate or CMA deicer which is an excellent alternative to road salt. CMA deicer is effective at lower temperatures than salt, and it is also noncorrosive and nonpolluting. The scientists are developing an economically competitive process by increasing the yield of acetic acid from fermentation to reduce cost. Highway departments in eight states and Ontario have field tested the CMA deicer. Feedback thus far has been positive except for the cost.

Senator HARKIN. We have seen that calcium magnesium acetate, pound for pound, is a lot more expensive than rock salt. But there was a study done in New York City that indicated that in the final analysis, after considering all the costs to the city of using salt and the harm to the subway systems, the harm to their underground electrical systems, the rails and everything that eroded, and when you add all that up, hey, calcium magnesium acetate looks a little bit better in terms of the long-term cost.

Dr. JORDAN. CSRS has initiated research under the Guayule Rubber Program to investigate the potential for manufacturing calcium magnesium acetate from guayule bagasse. There are also some alternatives, Senator, in terms of succinate and lactate salts that are also being examined at the Michigan Biotechnology Institute.

Senator HARKIN. That have the same properties?

Dr. JORDAN. Yes, sir; they have the same properties. They are biodegradable and they do not rust your car.

Senator HARKIN. I am all for that.

## HUMAN NUTRITION CENTERS

Last, of the five nutrition centers in the ARS nutrition program, Dr. Plowman, which one, if there are any, addressing the problems of linking agricultural production-oriented research with human nutrition research?

Well, let me explain that further. Which of the centers is focused on the development of designing foods as suggested by the National Academy of Sciences report of that name which suggested that we have the capacity to improve human nutrition through the modification of plants or animals or their products? Are you aware of that National Academy of Sciences report?

Dr. PLOWMAN. Yes, sir; I have read that.

Senator HARKIN. Do you have any nutrition centers doing that kind of research?

Dr. PLOWMAN. We have some initiatives going on. For example, in the center in Texas as part of the construction there, we have a greenhouse and some plant scientists that will be working to make that direct link, and we would like to provide some additional information for the record if we might.

Senator HARKIN. Yes; again, just so you understand what I'm interested in, and if you would let me know centers you currently have that are doing this kind of research and what the National Academy of Sciences is doing in the area of actually changing the plants or the animals or changing their products and designing foods for what people want to eat today.

Dr. PLOWMAN. We will provide that for the record.

Senator HARKIN. Thank you. I appreciate it very much. Thank you, Dr. Bentley. Thank you all.

[The information follows:]

## HUMAN NUTRITION RESEARCH

ARS is acutely aware of the continuing need to link production and processing research with human nutrition research. The ARS 6-year plan includes the following: "Devise strategies for change in the agricultural/food system that will enhance human nutrition." With the exception of the Nutrient Composition Laboratory of the Beltsville Human Nutrition Research Center, most of the production and post-harvest research is done at ARS Regional Centers or at locations other than the Human Nutrition Research Centers. Communication is excellent within the ARS family and coordination and approval of funds for research is accomplished by the Deputy Administrator for research and his National Program Staff. As priority research opportunities are identified, they are considered for implementation within available resources.

Examples of production and processing research designed to improve the nutritional quality of the food supply, include:

*Beltsville, Maryland, Human Nutrition Research Center*

- Studies on effect of irradiation on nutrient content of meats.
- Develop methods and determining nutritive value of foods, including market basket studies on fat content of beef and pork and cholesterol content of eggs.
- Effect of the form of starch in corn (amylose or amylopectin) on rates of absorption and blood sugar levels.
- Determine the effects of dietary levels of carbohydrates, fats and fatty acids on risk factors for diet-related disorders (cancer, coronary heart disease, hypertension, diabetes, and obesity).

*Houston, Texas, Children's Nutrition Research Center*

- Stable$^{13C}$ non-radioactive isotope labeling of cereals (rice, wheat, etc.) for studies on absorption in young infants.
- Determine the effects of dietary lipids on cholesterol synthesis in children and lactating women.

*San Francisco, California, Western Human Nutrition Research Center*

- Determine the effects of dietary levels of fats and fatty acids on risk factors for hypertension and coronary heart disease.

*Boston, Massachusetts, Human Nutrition Research Center on Aging*

- Study of dietary and genetic factors which influence risk factors associated with coronary heart disease.

*Grand Forks, North Dakota, Human Nutrition Research Center*

- Determine effect of dietary fiber components on bioavailability of trace minerals in plant foods

*Ithaca, New York*

- Study of factors that influence iron deposition in plant foods.

*Peoria, Illinois*

- Develop basic knowledge of biochemical pathways essential to genetic engineering of fatty acid profile of oilseeds.
- Determine the metabolic fate of "trans" fatty acids produced from hydrogenation of oils.
- Studies on effects of fiber from cereals and legumes on nutrient and nonnutrient bioavailability.

*Wyndmoor, Pennsylvania, Eastern Regional Research Center*

- Studies on effect of irradiation on nutrient content of meats
- Determine extent to which sodium chloride additions to nitrite treated, unrefrigerated meat products could be redu~~ced without~~ adversely affecting food safety.
- Studies on effects of pectin and fiber from carrots on nutrient and nonnutrient (bile acids) bioavailability.
- Development of lactose reduced milk products for lactose intolerant individuals.
- Develop procedures to reduce cholesterol of dairy products.

*Beltsville, Maryland, Livestock and Poultry Science Institute*

- Devise ways to increase lean to fat ratios of meat through breeding, feeding, and management of poultry and swine.
- Develop methods for determining fat and protein content of live carcasses in swine.

*Beaumont, Texas*

- Stable$^{13C}$ non-radioactive isotope labeling of cereals (rice, wheat, etc.) for studies on absorption in young infants (with the Children's Nutrition Research Center).

*Albany, California, Western Regional Research Center*

- Develop basic knowledge of biochemical pathways essential to genetic engineering of fatty acid profile of oilseeds.
- Studies on effects of fiber from cereals and effects of processing on nutrient and nonnutrient bioavailability.
- Develop procedures to reduce cholesterol of dairy products.

*Pasadena, California*

- Increase vitamin A activity of vegetables and sweet potatoes by chemical regulators.

*Clay Center, Nebraska*

- Develop methods for determining fat and protein content of live carcasses in beef animals
- Devise ways to increase lean to fat ratios of meat through breeding, feeding, and management of beef, swine, and lamb.

*Georgetown, Delaware*

- Devise ways to increase lean to fat ratios of meat through breeding, feeding, and management of poultry.

*Raleigh, North Carolina*

- Develop new varieties of soybeans with modified fatty acid composition.

*Miles City, Montana*

- Devise ways to increase lean to fat ratios of meat through breeding, feeding, and management of beef.

*El Reno, Oklahoma*

- Devise ways to increase lean to fat ratios of meat through breeding, feeding, and management of beef.

*Dubois, Idaho*

- Devise ways to increase lean to fat ratios of meat through breeding, feeding, and management of lamb.

*Madison, Wisconsin*

- Develop new varieties of vegetables rich in vitamin A activity.
- Develop procedures to modify the fatty acid composition of dairy products.

## IR-4 PROGRAM

Senator **BURDICK**. The Senator from Washington.

Senator **ADAMS**. Thank you very much, Mr. Chairman. Gentlemen, I have some questions I would like to submit in writing. There is one which I raised with Secretary Yeutter when he was here last week that involves minor crop registration, and all of you are a potential source for helping us solve this problem. And when I say minor crop registration, it is the registration that is required by EPA of a series of pesticides and chemicals that are not used necessarily for major crops. The word minor, however, at least for my State, is not really a proper terminology because about 90 percent of the crops in our State fall under this category. And the 1988 FIFRA amendments require an expedition of the reregistration process.

Here is our problem. Many of the chemical companies that make these find that the process is expensive, and may take their products off the market rather than go through the process.

I have two questions that I would like to have you answer and if you cannot answer them here, give them to me in writing.

One, is it possible for you to use a line item and more funding, say—it is now at about $2 million—maybe as much as $10 million to help with the residue examination? And, second, what is the potential for the Department of Agriculture becoming a third-party registrant and maybe solving it that way?

And what we would like to know is if you could become a third-party registrant—and it is my understanding this has been done in certain of the animal and plant health inspection programs—what would you need? Money, congressional direction, or what else?

Funding levels for the IR4 residue program is the subject of my first question and the second question is: Is it possible for USDA to become a third-party registrant? I would be happy to hear from any of you.

Dr. JORDAN. The first part of that would have to do with—oh, excuse me, Bob.

Mr. LONG. I will ask Dr. Jordan to complete. All I wanted to say in advance, that is a fairly complex question, a good question.

We are going to look at what the possibilities of third-party registration position might be. We cannot answer it here, but we can answer it in writing, and we will try to give you some information on that, if you would like that.

Senator ADAMS. Would you, please, because then we will know whether or not we are dealing with strictly a funding problem or if we can give some congressional direction or perhaps a change in the law. I think it is essential, or else we may have people trying to smuggle chemicals or a lot of other things because they will be in a desperate strait if these companies just simply cut off the manufacture of these pesticides.

Mr. LONG. It is a serious problem. We are fully aware of it, and I believe there will be some solutions in the near future. As to how we can approach this effectively to keep these materials available for the minor uses, as we would call them. Dr. Jordan, do you have something more you wanted to say on that?

Dr. JORDAN. To simply add, Senator, that what you have outlined is one of the reasons why there is a 50 percent increase requested in pesticide clearance and those kinds of things that relate to clearance, minor use, animal drugs, and related programs. In addition to what is in IR-4 at the moment, there are also 350,000 dollars' worth of Hatch Act regional research funds plus some State Agricultural Experiment Station funds that go along with it. It is a high, high priority for us.

Senator ADAMS. Good. Thank you, Mr. Chairman.

### PESTICIDE ASSESSMENTS

Dr. JOHNSRUD. If I could also comment on that question, that is the one area that does not have a large amount of money requested. It is an increase in our Extension budget, and it is a very pressing area. Money is not the total answer. Extension just simply does not have the staff resources to adequately respond to the impact assessments.

We are also in concert with the Department looking at how we conduct this program in a more efficient and more effective manner. It is a very complex issue and is also a financially pressing one.

Senator ADAMS. That is why I suggested that I would be most pleased to receive—the committee would—your answer in writing on it.

I know it is complex, but I also know that it will simply put our people out of business if we cannot solve it.

Thank you, Mr. Chairman.

Senator BURDICK. That concludes the hearing.

I thank all the participants for their contributions this morning.

## SUBMITTED QUESTIONS

Additional questions will be submitted by the following Senators: McClure, Adams, Kasten, Grassley, Byrd, Specter, Kerrey, Harkin, Cochran, Hatfield, and me.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

## AGRICULTURAL RESEARCH SERVICE

### QUESTIONS SUBMITTED BY SENATOR BURDICK

### WATER QUALITY

Question: What is the current funding, distributed by agency, for water quality, and what are the specific activities being funded?

Answer: The current funding for water quality research and extension $30 million for Agricultural Research Service, $19.7 million for Cooperative State Research Service, and $26.3 million for Extension Service. These funds include the Congressional increases for Fiscal Year 1989.

The specific research activities supported by ARS and CSRS funds include the development of: methods for identifying major sources of pollution; farm management options for reducing any adverse impacts of agriculture on water quality; an improved understanding of the fate of chemicals in soil and their movement to surface waters and groundwaters; and procedures for determining the social, economic, and political consequences of changes in the agricultural production systems that may be needed to achieve water quality goals.

Farm management options receiving attention include: changes in the timing, placement, formulation, and rate of application of agricultural chemicals; more efficient chemical application technology; improved pesticide waste disposal practices; expanded use of winter cover crops and crop rotations; integrated pest management and biological methods of pest control; soil conservation and stream channel protection; improved water management and salinity control; and more effective use of riparian zones and other natural filters.

The $3 million increase in CSRS funding for groundwater quality research in fiscal year 1989 is being used to support: (1) a $1 million proposal from the University of North Dakota on hydrogeologic and other groundwater related issues, (2) a $168,000 research project by Iowa State University to control direct flow from the soil surface into groundwater from "drainage wells" in the pothole farmlands of northern Iowa, and (3) a $1.832 million effort to obtain badly needed information through competitively selected research projects. About 240 proposals have been received and will soon be evaluated by merit review panels.

Specific extension oriented activities supported by these funds include: educational programs on the testing and treatment of rural water supplies, and the development and release of publications and other training materials on the water quality implications of soil-pesticide and soil-nutrient interactions and information on biological control and integrated pest management.

### LOW INPUT AGRICULTURE

Question: How much of the money in the budget for water quality -- and particularly the $19 million increase -- will be used on low input research and methods?

Answer: The $19 million increase for water quality in President Bush's Water Quality Program includes $10 million for ARS, $3.9 million for CSRS, and $5 million for ES, is dedicated to water quality research and related technology transfer. The water quality research funds are committed by CSRS and ARS to the USDA Research Plan for Water Quality which specifies its general goals as, "to safeguard and enhance the quality of the Nation's surface waters and groundwaters in the presence of sustained agricultural activities. Emphasis will be placed on groundwater qulaity."

The water quality and low input programs have several complementary objectives. Current and planned activities to improve chemical management, develop biological methods of pest control, and evaluate the economic and water quality consequences of alternative cropping systems may well lead to reduced fertilizer and pesticide use. However, the central objective of the water quality program is to optimize the economic returns from farming while protecting the quality of the Nation's water resources.

Question: What is the current funding, distributed by agency, for low input agriculture, and what are the specific activities being funded?

Answer: The FY 89 appropriation in ARS devoted to low-input agriculture is $108.79 million. Most of the research related to low inputs includes the same categories as are described for the CSRS research. Additional categories for ARS research are development of low-cost irrigation systems which use less energy and less labor; development of predictive models for erosion which are used to identify highly erodible soil and lowest cost conservation management practices; and development of efficient pesticide and nutrient management systems which reduce chemical application amounts.

In 1983, the Cooperative State Research Service, in cooperation with Iowa State University, conducted an assessment of Conventional and Organic-Related Farming Systems research being undertaken at State Agricultural Experiment Stations. The results of this assessment indicated that $68.0 million of CSRS funds is neutral to organic or conventional farming systems of which $3.5 million has direct relevance to organic-related farming systems. For FY 1989, an additional $4.45 million was appropriated to CSRS for low-input sustainable agriculture under Title XIV, Subtitle C of the Food Security Act of 1985. The research involves both field crops and animal production and includes such areas as breeding, soil fertility, tillage, pest control, cropping systems, and animal management.

What has come to be called low-input sustainable agriculture may incorporate potentially profitable and environmentally beneficial characteristics of existing approaches along the continuum from organic farming to reduced reliance on use of purchased off-farm inputs, such as chemical fertilizers and pesticides. To refine our data on the base program in this area as it is evolving, we have undertaken a special study to more usefully identify the extent to which research and education are addressing the need for reliable facts and information on low-input sustainable agriculture. Preliminary results of this new inquiry are expected by June.

Much of the low-input work in ES has concentrated on various components of soils, water agricultural chemicals, waste management, endangered species, cover crops, weed control, etc. The soils work has been primarily focused on reducing soil loss through better tillage practices. The overall goal is to develop holistic systems which are environmentally sound, socially acceptable and profitable in the short and long term. The component parts have received significant attention, and now progress is required in developing a systems approach. Federal expenditures in ES amount to approximately $330 million nationwide. That represents about one third of the total amount --$1 billion-- spent annually by the Cooperative Extension System. It is estimated that approximately 10% of the total is devoted to low-input component education programs which have the primary goal of reducing soil loss and chemical use.

Question: How will the $19 million increase in water quality funding be used to assist in research in low input agriculture?

Answer: The water quality program has been carefully planned and is separate from the low-input agriculture program. However, the results of nitrogen and pesticide research to avoid contamination of soils and degradation of groundwater quality, and associated policy and economic impact studies, may be indirectly useful to low-input agriculture management decisions and should provide guidelines for focusing low-input research. Some of the farm management options to be evaluated with these resources may include reduced levels of chemical use. The decision on whether low input options should be included in the field experiments will be based on the most reliable and objective information available on their economic and environmental consequences.

Question: How will the $19 million increase be used to provide information to farmers on means to reduce their onfarm use of agricultural chemicals?

Answer: The increase will be used to gain new insights into the factors, processes, and management practices that may be contributing to the groundwater quality problem. To the extent that excessive chemical use proves to be an important contributing factor for selected soils, climates and geologic conditions, appropriate information on the economic, social, and water quality consequences of reduced chemical use will be provided to farmers.

The educational program will be conducted by the Extension Service, whose specialists and county personnel will work with State agricultural experiment stations and ARS scientists in adapting research data for effective technology transfer to producers and other users of potentially harmful chemicals and wastes.

To assure the integration of such information, the Extension Service will be deeply involved in the implementation of the Midwest Initiative and associated research programs. Exentsion and the Soil Conservation Service will jointly operate a program of demonstration sites to assure rapid transfer of environmentally sound, profitable, farm management techniques to farmers. In addition, ES has developed a Water Initiative Team, which includes national level linkages to programs such as Pesticide Applicator Training, Environmental Management of Agricultural Chemicals, and soil fertility programs, with well developed water quality protram linkages.

## QUESTIONS SUBMITTED BY SENATOR BYRD

### SPRING AND GROUNDWATER INSTITUTE

Question: I understand the Aquaculture Linked to Plant Culture project at the Shepherdstown, West Virginia, Spring and Ground Water Resources Institute is going well. How and what type of interaction is there between the Institute and the Appalachian Fruit Research Station?

Answer: There is scientist-to-scientist interaction, and sharing of facilities and equipment. The Appalachian Fruit Research Station, Kearneysville, WV, plans to expedite the program by adding greenhouses and placing ancillary equipment at the Institute for the project's Plant Culture activities.

Question: How have the USDA/ARS and the Appalachian Fruit Research Station been funding the project at both facilities?

Answer: Congress specified that $654,000 from FY 1989 groundwater research appropriations be available for research at the Spring and Ground Water Institute in West Virginia. The Appalachian Fruit Research Station is using available funds authorized for research on small fruit culture at Shepherdstown.

Question: What impact on your ongoing high priority programs has this re-programming caused?

Answer: The $654,000 made available for second year research at Shepherdstown was part of a $4 million FY 1989 budget proposal to upgrade soil and sediment nitrogen and pesticide degradation research. The goal is preventing or minimizing agricultural chemicals movement in soils. Initial plans for the activity were revised to comply with the Congressional directive.

Question: We are into the third year of funding for this five year project. What are the funding requirements for the Institute's portion and the Appalachian Fruit Research Station's portion for the fiscal year 1990?

Answer: The FY 1990 funding requirements for the Aquaculture Linked to Plant Culture project are $1,655,000. ARS has reviewed the Institute's Program Management Document and has considered support facilities for plant preparation, plant and water analysis, nutrient solution, testing, and office space. Support will also be required for part time technical assistance, greenhouse equipment, and overall operational costs.

## QUESTIONS SUBMITTED BY SENATOR COCHRAN

### AQUACULTURE

Question: The Economic Research Service of USDA issued a report last October which states that aquaculture is the fastest growing agricultural industry in the United States, increasing over 20 percent annually in this decade. Are you familiar with this report? What is USDA doing to assist this rapidly growing industry?

Answer: ARS is familiar with the "Aquaculture Situation and Outlook Report" published by the Economics Research Service which summarizes statistics and trends of the industry.

The following summarizes USDA programs to assist aquaculture.

The Office of Aquaculture, U.S. Department of Agriculture, coordinates Department-wide aquaculture activities and provides leadership for the Federal-wide Joint Subcommittee on Aquaculture. The Office of Aquaculture also coordinates the operations and activities of Regional Aquaculture Research, Development, and Demonstration Centers.

The Agricultural Research Service conducts aquaculture research with the following objectives: (1) determine causes of off-flavor in catfish; (2) improve productivity and quality in catfish through genetic selection and breeding programs; (3) develop efficient production systems for catfish production; (4) improve aquaculture production efficiency through improved rations and increased utilization of soybean meal, corn, and other surplus crops; (5) and link aquaculture to horticultural production systems. Research programs are conducted at the Oceanic Institute, Waimanola, Hawaii; the Southern Regional Research Center, New Orleans, Louisiana; Tishomingo, Oklahoma; Stoneville, Mississippi; the ARS Regional Parasite Research Unit, Auburn, Alabama; and Shepherdstown, West Virginia.

The Cooperative State Research Service administers an Aquaculture Special Research Grant Program awarding grants on a competitive basis. It also awards Special Grants in aquaculture on research problems that Congress believes are important to the Nation. CSRS houses the Office of Aquaculture responsible for coordinating all aquaculture programs in the Department of Agriculture.

The Extension Service is the primary educational arm of the USDA. Programs are implemented through the Cooperative Extension Service in each State through an integrated partnership with Federal, State, and county levels of government. Many States have developed Extension educational programs in aquaculture.

The National Agricultural Library has established a National Aquaculture Information Center.

The Agricultural Marketing Service conducts research on new market opportunities for aquaculture products. This research helps determine the economic feasibility of aquaculture product development based on potential marketing opportunities.

The Animal and Plant Health Inspection Service provides diagnostic services, when not available locally, to assist fish producers by determining the cause of disease. Prelicense testing of fish vaccines is also performed by the agency.

Soil Conservation Service policy recognizes that aquaculture is an important part of farming in many areas of the United States. Technical assistance for aquaculture may be a part of soil and water conservation activities as determined by soil conservation districts and reflected in their plans and priorities. The primary objective of the Soil Conservation Service assistance in aquaculture is protection of the soil and water resource base.

The National Agricultural Statistics Service prepares and publishes reports from monthly surveys of catfish processors' weight processed, end-of-the-month inventories, prices paid to catfish producers, and prices received by processors by methods of sales.

The Farmers Home Administration makes and guarantees farm ownership and operating loans and provides technical management assistance to family farmers and ranchers. Loan funds may be used to provide facilities and operational resources to produce fish under controlled conditions.

The Foreign Agricultural Service assists the U.S. aquaculture industry develop overseas markets for aquaculture products.

## NEW USES

Question: Secretary Yeutter has expressed his support for research on the development of new uses for farm and forest products, and I am aware of some of the activities of the Department in this regard. Can you provide me with an overview of your activities in this area, within the Federal laboratories?

Answer: ARS is responding to changing food industry demands, emphasizing health, convenience, freshness, and novelty. Research is progressing to extend shelf-life of fruits, vegetables, meat, and fish. Methods for removing cholesterol from dairy products are being devised. Genetically manipulated oilseed plants are reducing dietary risk for cardiovascular and cancer problems. Natural flavors, textures, colors, and preservatives are being designed. Tlhe overall budget for research on new and improved food products is $27.003 million.

Non-food product research is expanding. The present non-food research budget level is $25,279 million. Cornstarch is being converted into biodegradable plastics. Starch is used to encapsulate pesticides and reduce groundwater contamination. It is also fermented to develop biopesticides as chemical pesticide alternatives. A new printing ink from soybean oil is being developed. The oil can be converted to specialty chemicals reducing the need for imports such as coconut oil and castor oil. Another research thrust involves industrial process development for synthesizing natural rubber, thus lessening foreign source dependency. Lactose from the dairy industry is being upgraded, through fermentation, to health-care products.

This research could open new multi-billion pound markets for cereal starch, soybean oil, and dairy materials. There are also projects for improving cotton products, optimizing hides-to-leather conversion and enhancing wool quality.

Question: Dr. Bentley, over the past couple of years we have heard a lot about the development of kenaf (ke naf'), including some interest from my state of Mississippi. Can you briefly update us on this project?

Answer: Kenaf has the greatest potential, at this time, as substitute for wood pulp. It will replace the expensive, imported kraftpulp needed to blend with domestic wood pulp. Plans for a $400 million newsprint plant in South Texas have been ready for some time. Implementation has been delayed because the Canadian company involved was merged, and the new company (Canadian Pacific Forest Products, Ltd.) is taking extra time to review plans. Newsprint South, Inc., Grenada, MS, will start up a $350 million mill in July, based primarily on southern pine as raw material, with added kraftpulp for quality. The mill operators have expressed great interest in evaluating large scale kenaf use. It would replace a major portion of the kraftpulp. Kenaf should drastically cut power cost as well. A 2-year program is underway, to evaluate profit potential for Mississippi farmers and to assess the value of locally grown kenaf to the newsprint mill. A decision should be made early in 1990, in time to grow enough kenaf to meet the mill's needs.

Research programs are underway at Lane, OK and Weslaco, TX, to develop kenaf cultural practices under varying conditions. Similarly, Mississippi State University is planning management and cultural system research to assist Newsprint South, Inc. and Kenaf International, Inc. The latter company is positioning itself to provide seed, guide agricultural development, purchase, and process the crop for the paper industry. Beside its use in paper, the kenaf plant can be processed into long fibers, called bast, for use in carpet backing and in a variety of molded products; and there are other uses. In a cooperative agreement with ARS/CSRS, a practical fiber separation system has been developed and will shortly be ready for field testing. Other agreements are underway or planned to explore the above and additional applications.

## LONG TERM RESEARCH

Question: Dr. Plowman, a major concern you cite in your submitted statement is the need to find ways to adequately support on-going long-term research programs of critical significance to American agriculture but that fall outside today's highest priority needs (water quality, global climate changes, stratospheric ozone). Can you cite an example of such a program and indicate the potential impact that less attention or underfunding has had on U.S. agriculture. How can we better balance our limited funding (no substantial increases over past few years)?

Answer: ARS has a great concern about adequate funding of high priority core research programs which have operated for several years with static funding. Many research activities fall in this category and three examples will demonstrate the dilemma.

First is wheat quality evaluation. ARS is the lead agency conducting research in this area and has established laboratories to study the properties and qualities of specific wheat varieties (soft wheat, Wooster, Ohio, 1936; hard winter wheat, Manhattan, KS, 1937; western wheat, Pullman, WA., 1946; and hard red spring and durum wheat, Fargo, ND, 1963). Funding levels kept pace with program demand until aproximately 10 years ago. Since then funding has remained static, resulting today in a 40-percent scientific staff reduction and net-reduced output of wheat quality research. This has broad repercussions not only to the industry but also on our balance of payments.

A second example is animal nutrition research. Historically ARS has been a leader in this area, has significantly contributed to our knowledge base, and greatly helped our animal industries. ARS has not received base funding increases in beef cattle, swine, and sheep nutrition for the past decade. The number of scientist years of research effort has been reduced approximately 50 percent to maintain proper support for today's scientists. This has significantly impacted knowledge gained and technology transfer. For example, many of today's new breeds of livestock have been imported by ARS for evaluation before release to industry. Their nutritional requirements were researched by ARS scientists; and much of their findings were used by the NAS/NRC nutrient requirement series for scientific feeding of these animals. Due to severe financial cutbacks, this and other areas have suffered.

Third is the Southern Weed Science Laboratory, Stoneville, MS. This laboratory had 18 scientists in FY '75, 15 in FY '82, and 10 in FY '89. During this time period base funds increased from $761,000 to $1.4 million; however, funds for research _per se_, exclusive of salaries in the laboratory, were reduced from $381,000 in FY '75 to $266,000 in FY '89 for the total laboratory.

The question of "how can we better balance our limited funding" is one we deal with each day. Our solution is to fund our highest priority programs by closing out our lowest priority programs and redirecting those funds accordingly.

### RESEARCH EDGE

Question: There has been some discussion lately about the U.S. losing its agricultural edge. How do you feel about this? Is there any evidence that the U.S. is losing its historical leadership role in basic and applied agricultural science and research?

Answer: The position of the United States as a world leader in agricultural production must be continually monitored and guarded very carefully. Expanding modern production technology, even to the third world, means that more land is producing more crops with which the U.S. must compete in the international marketplace. Therefore, U.S. farmers and ranchers must have the capacity to produce, harvest, store, transport and market their crops more efficiently. The increasing competitiveness of the world today, is certainly a cause for concern.

Obviously, increasing efficiencies depend on a steady stream of technological innovations from the U.S. agricultural research system. This system is maintained by the continual recruitment and development of high quality agricultural and agriculture related scientists. The ability to find and hire the "brightest and best" American scientists is of deep concern. Low enrollment in Colleges of Agriculture and Colleges of Natural Resources raises concerns that the proportion of the scientific best are being attracted into agricultural research may be declining. The inability to replace top researchers as they retire is already showing up in some key scientific areas.

The U.S. agricultural research system must maintain a strong commitment to problem solving research in new and emerging areas to retain its historic leadership role. This will require research programs emphasizing product quality, public food safety, improved product durability and shelf life, new and innovative food and non-food products and others.

During the past two decades, research support to many areas of agricultural research has been steadily eroded. Areas such as plant, animal and microbial taxonomy, wheat quality, cotton ginning, animal breeding and production, alfalfa breeding and production, soil science, harvesting technology and breeding and production of horticultural crops require long-term sustained research programs. These rarely arouse public emotion or attract significant attention. This erosion is an indication that the historic leadership position of the American agricultural research system maybe slipping. It is also an indication that America's agricultural trading partners may become more competitive in global markets.

## GLOBAL WARMING

Question: A lot of interest has been expressed in global warming. Given its potential impact on American agriculture, to what extent is USDA involved in the global warming program?

Answer: For many years, the U.S. Department of Agriculture has been involved in research related to both natural and man-induced changes in climate. A plan for Climate Change Research is being developed and will soon be released. This plan, developed under ARS leadership, will define the Department's strategies for protecting American food, fiber, forest and aquaculture production systems, regardless of the climate changes--warmer, cooler, wetter, drier. USDA is actively participating in coordinating its planning activities with other Departments as part of the Presidential Initiative on Global Change.

ARS has always included climate impacts as a component of plant and animal science research objectives. Developing the capability for plants and animals to cope with drought or temperature extremes is a part of past and ongoing research activities. ARS has conducted research on the effects of increased carbon dioxide and ultra violet radiation in support of the Department of Energy and the Environmental Protection Agency programs. New research is being conducted under controlled experimental conditions to determine the basic crop physiological responses to these variables.

Question: I understand that some research had indicated that doubling of carbon dioxide ($CO_2$) in the atmosphere has improved cotton yields by 80%, rice by 36%, and soy beans by 32%. (This would be welcomed in Mississippi.) What does research tell us about agriculture and the so-called greenhouse? Is there a relationship between the greenhouse and global warming?

Answer: ARS scientists have measured and reported growth and yield responses which you cited under controlled, environmental chamber, conditions with doubled carbon dioxide concentrations. Research under open field conditions will now verify whether the response will be similar to controlled conditions. Cost of production would be reduced significantly if responses are similar.

Increased atmospheric concentrations of carbon dioxide and other greenhouse gasses, however, may contribute to many undesirable global impacts. Global climate models predict temperature changes and shifting, highly variable, precipitation patterns. These changes could cause several adverse effects on global, as well as U.S. agricultural systems, particularly, if serious droughts occur more frequently in areas with recent histories of stable climate.

Climate and crop models must be vastly improved before we can predict the impact of increased carbon dioxide levels on agricultural production systems with any degree of certainty.

Increased carbon dioxide concentrations appear to interact significantly with climate variables in affecting plant growth. Some studies show that increased levels of carbon dioxide tend to reduce plant water loss, helping to offset drought effects. Studies also indicate that the crop growth stimulation from carbon dioxide is greater at higher temperatures. Certain studies, however, suggest that increased growth stimulation from carbon dioxide may occur only with high levels of soil nutrients. Models used to assess the impact of carbon dioxide concentration on crop production, including those used in the recent EPA assessment, do not account for such interactions.

Future ARS research will emphasize experiments designed to measure crop responses to carbon dioxide increases combined with other climate variables to support the development of crop growth simulation models. These models will improve our capability to predict the impact of climate change, as well as providing a foundation for crop management strategies to cope with changes.

## SPECIAL FOREIGN CURRENCY PROGRAM

Question: Scientists/researchers have been able to collaborate with foreign scientists in conducting basic and applied research through the Special Foreign Currency program, which is funded under the Office of International Cooperation and Development (OICD). Over the past few years, these funds have been declining supposedly due to reduced levels of U.S.-owned foreign currencies. Do you see a substitute for this financing?

Answer: As the number of countries with substantial balances of U.S.-owned currencies declined, a few of these countries made arrangements to continue research cooperation through programs such as the U.S.-Yugoslavia Joint Board, the U.S.-Poland Joint Board and the U.S.-India Fund (USIF). Some of these programs now are partially funded by the Department of State.

In addition to supporting research in "excess currency" countries, OICD's appropriation for scientific activities overseas under the Special Foreign Currency Program has been used to make research funds available from PL-480 loan repayments in Taiwan and Currency Use Payments (CUP) provisions on PL-480 sales agreements in Costa Rica. So, while it is true that U.S.-owned foreign currencies are much reduced from former levels, the restriction to our research collaboration is due mainly to the decline in funds available to OICD for grants to foreign institutions.

Question: Has the program been of benefit to U.S. agriculture?

Answer: ARS has been the major "user" of the SFC Research program. About 75 percent of the foreign research grants have ARS employees as Cooperating Scientists. The majority of new research proposals are evaluated by ARS National Program Staff. The program has provided germplasm, biological control materials and scientific information of benefit to U.S. agriculture. SFC research grants also have complemented the domestic research of U.S. Cooperating Scientists and have provided valuable contacts with foreign scientists and institutions.

## ARS FACILITIES

Question: Please provide, for the record, information about the recently completed comprehensive inventory of modification needs at ARS facilities. How was the survey performed and what is the nature and approximate cost of modification needs at each location?

Answer: In order to determine the magnitude of the maintenance and renovation problem facing ARS; research leaders and managers, engineers, and administrative personnel were charged with collecting first-hand information on the current state of our facilities, including the identification of repair and renovation requirements. The guidance provided was to bring our facilities up to present day functional, safety, and code requirements. After 2 years of effort, in February 1989, the Agency completed this in-house assessment for all ARS facilities that are owned or under a long-term lease. These assessments were conducted without the benefit of a comprehensive engineering facility study and analysis by all the required disciplines; i.e., mechanical, electrical, civil, architect, etc., or special consultants for speciality areas like asbestos and fire protection. However, the assessment had the impact of the engineering community who were involved in identifying and approximating the cost of the maintenance and renovation needs. This snapshot of the total Agency's maintenance and renovation funding needs is sufficient to identify the magnitude of the problem facing ARS scientists and administrators and other interested parties.

As a result of the assessment, ARS has identified $300-400 million in maintenance and modernization needs for 109 research Locations that are either owned or leased long-term. Some newly constructed Federal facilities and cooperator-owned research facilities housing ARS scientists have been excluded from the report since new facilities do not need major renovations and the maintenance and upkeep of cooperator's facilities, rest with the cooperator. The modernization plan projects a systematic approach (subject to funding availability) for facility upgrade at each Location via implementation sequencing in the context of contract A-E study for the purpose of definitizing the deficiency problems, design of building system replacements, and construction over a 6-year period. The top 10 facility modernization priorities have been identified by ARS based on program and facility needs.

A detailed listing of repair and maintenance needs and approximate costs for the 109 ARS Locations referred to above follows.

REPAIR AND MAINTENANCE NEEDS AND COSTS

| Location and Description | Estimated Cost |
|---|---|
| Alabama | |
| Auburn | |
| Sitework/Drainage | $ 138,000 |
| Paving | 23,000 |
| HVAC/Fume Hood | 63,000 |
| Roofing/Building Envelope | 266,000 |
| Miscellaneous | 388,000 |
| TOTAL | $ 878,000 |

## Alaska

### Fairbanks

| | |
|---|---|
| HVAC/Fume Hood | 75,000 |
| Roofing/Building Envelope | 45,000 |
| Electrical Systems | 20,000 |
| Life Safety Concerns | 46,000 |
| TOTAL | $ 186,000 |

## Arizona

### Phoenix

| | |
|---|---|
| HVAC/Fume Hood | $ 460,000 |
| Roofing/Building Envelope | 472,000 |
| Electrical Systems | 172,000 |
| Life Safety Concerns | 52,000 |
| Miscellaneous | 54,000 |
| TOTAL | $ 1,210,000 |

### Tucson

| | |
|---|---|
| Sitework/Drainage | $ 425,000 |
| Paving | 160,000 |
| Asbestos Removal | 100,000 |
| HVAC/Fume Hood | 1,600,000 |
| Roofing/Building Envelope | 315,000 |
| Electrical Systems | 920,000 |
| Life Safety Concerns | 480,000 |
| TOTAL | $ 4,000,000 |

## Arkansas

### Booneville

| | |
|---|---|
| Sitework/Drainage | $ 44,000 |
| Paving | 25,000 |
| TOTAL | $ 69,000 |

## California

### Albany

| | |
|---|---|
| Sitework/Drainage | $ 1,257,000 |
| HVAC/Fume Hood | 7,240,000 |
| Roofing/Building Envelope | 2,518,000 |
| Electrical Systems | 3,461,000 |
| Life Safety Concerns | 1,259,000 |
| TOTAL | $15,735,000 |

### Brawley

| | |
|---|---|
| Paving | $ 40,000 |
| HVAC/Fume Hood | 180,000 |
| Roofing/Building Envelope | 86,000 |
| TOTAL | $ 306,000 |

Davis

| | | |
|---|---|---|
| Sitework/Drainage | $ | 96,000 |
| Paving | | 80,000 |
| HVAC/Fume Hood | | 126,000 |
| Roofing/Building Envelope | | 40,000 |
| Electrical Systems | | 80,000 |
| | TOTAL $ | 422,000 |

Fresno

| | | |
|---|---|---|
| HVAC/Fume Hood | $ | 219,000 |
| Roofing/Building Envelope | | 163,000 |
| Electrical Systems | | 88,000 |
| Structural Systems | | 300,000 |
| Life Safety Concerns | | 44,000 |
| | TOTAL $ | 814,000 |

Pasadena

| | | |
|---|---|---|
| Paving | $ | 28,000 |
| HVAC/Fume Hood | | 860,000 |
| Roofing/Building Envelope | | 60,000 |
| | TOTAL $ | 948,000 |

Salinas

| | | |
|---|---|---|
| Sitework/Drainage | $ | 235,000 |
| Paving | | 168,000 |
| HVAC/Fume Hood | | 720,000 |
| Roofing/Building Envelope | | 1,380,000 |
| Electrical Systems | | 860,000 |
| Structural Systems | | 640,000 |
| Life Safety Concerns | | 800,000 |
| | TOTAL $ | 4,803,000 |

San Francisco

| | | |
|---|---|---|
| Electrical Systems | $ | 208,000 |
| | TOTAL $ | 208,000 |

Shafter

| | | |
|---|---|---|
| Sitework/Drainage | $ | 240,000 |
| Paving | | 120,000 |
| HVAC/Fume Hood | | 320,000 |
| Roofing/Building Envelope | | 140,000 |
| Electrical Systems | | 280,000 |
| | TOTAL $ | 1,100,000 |

Colorado

Akron

| | | |
|---|---|---|
| Sitework/Drainage | $ | 45,000 |
| Asbestos Removal | | 75,000 |

### Akron

| | | |
|---|---|---|
| Roofing/Building Envelope | | 30,000 |
| Life Safety Concerns | | 30,000 |
| | TOTAL $ | 180,000 |

### Fort Collins

| | | |
|---|---|---|
| Asbestos Removal | $ | 150,000 |
| Roofing/Building Envelope | | 66,000 |
| | TOTAL $ | 216,000 |

### Nunn

| | | |
|---|---|---|
| Sitework/Drainage | $ | 15,000 |
| Roofing/Building Envelope | | 1,080,000 |
| | TOTAL $ | 1,095,000 |

## Delaware

### Georgetown

| | | |
|---|---|---|
| Sitework/Drainage | $ | 50,000 |
| HVAC/Fume Hood | | 270,000 |
| Roofing/Building Envelope | | 230,000 |
| Electrical Systems | | 125,000 |
| Life Safety Concerns | | 90,000 |
| | TOTAL $ | 765,000 |

## District of Columbia

### Washington

| | | |
|---|---|---|
| Sitework/Drainage | $ | 496,000 |
| Miscellaneous | | 496,000 |
| | TOTAL $ | 992,000 |

## Florida

### Brooksville

| | | |
|---|---|---|
| Sitework/Drainage | $ | 550,000 |
| Paving | | 150,000 |
| Roofing/Building Envelope | | 128,000 |
| Electrical Systems | | 7,000 |
| | TOTAL $ | 835,000 |

### Canal Point

| | | |
|---|---|---|
| Sitework/Drainage | $ | 50,000 |
| Paving | | 24,000 |
| HVAC/Fume Hood | | 147,000 |
| Roofing/Building Envelope | | 24,000 |
| Electrical Systems | | 37,000 |
| Structural Systems | | 93,000 |
| | TOTAL $ | 375,000 |

Ft. Lauderdale

| | | |
|---|---|---|
| Sitework/Drainage | $ | 15,000 |
| Roofing/Building Envelope | | 16,000 |
| Electrical Systems | | 4,000 |
| Life Safety Concerns | | 13,000 |
| | TOTAL $ | 48,000 |

Gainesville

| | | |
|---|---|---|
| HVAC/Fume Hood | $ | 1,924,000 |
| Roofing/Building Envelope | | 768,000 |
| Electrical Systems | | 768,000 |
| Life Safety Concerns | | 385,000 |
| | TOTAL $ | 3,845,000 |

Leesburg

| | | |
|---|---|---|
| HVAC/Fume Hood | $ | 27,000 |
| Roofing/Building Envelope | | 5,000 |
| Life Safety Concerns | | 4,000 |
| | TOTAL $ | 36,000 |

Miami

| | | |
|---|---|---|
| Sitework/Drainage | $ | 411,000 |
| Paving | | 220,000 |
| HVAC/Fume Hood | | 822,000 |
| Electrical Systems | | 184,000 |
| Miscellaneous | | 110,000 |
| | TOTAL $ | 1,747,000 |

Plymouth

| | | |
|---|---|---|
| Sitework/Drainage | $ | 66,000 |
| Asbestos Removal | | 13,000 |
| HVAC/Fume Hood | | 13,000 |
| Roofing/Building Envelope | $ | 2,000 |
| Electrical Systems | | 13,000 |
| Life Safety Concerns | | 53,000 |
| | TOTAL $ | 160,000 |

Winter Haven

| | | |
|---|---|---|
| Asbestos Removal | $ | 98,000 |
| HVAC/Fume Hood | | 75,000 |
| Roofing/Building Envelope | | 140,000 |
| Electrical Systems | | 50,000 |
| | TOTAL $ | 363,000 |

## Georgia

Athens

| | | |
|---|---|---|
| Paving | $ | 220,000 |
| HVAC/Fume Hood | | 530,000 |
| Roofing/Building Envelope | | 253,000 |

### Athens

| | |
|---|---|
| Electrical Systems | 749,000 |
| Life Safety Concerns | 24,000 |
| Miscellaneous | 100,000 |
| TOTAL | $ 1,876,000 |

### Byron

| | |
|---|---|
| Sitework/Drainage | $ 670,000 |
| Paving | 184,000 |
| Asbestos Removal | 60,000 |
| HVAC/Fume Hood | 994,000 |
| Roofing/Building Envelope | 15,000 |
| Electrical Systems | 172,000 |
| Structural Systems | 95,000 |
| Life Safety Concerns | 100,000 |
| TOTAL | $ 2,290,000 |

### Dawson

| | |
|---|---|
| HVAC/Fume Hood | $ 950,000 |
| Life Safety Concerns | 160,000 |
| TOTAL | $ 1,110,000 |

### Experiment

| | |
|---|---|
| HVAC/Fume Hood | $ 66,000 |
| TOTAL | $ 66,000 |

### Savannah

| | |
|---|---|
| Paving | $ 206,000 |
| HVAC/Fume Hood | 81,000 |
| Roofing/Building Envelope | 251,000 |
| Electrical Systems | 32,000 |
| Life Safety Concerns | $ 16,000 |
| TOTAL | $ 586,000 |

### Watkinsville

| | |
|---|---|
| HVAC/Fume Hood | $ 390,000 |
| Roofing/Building Envelope | 219,000 |
| Electrical Systems | 158,000 |
| TOTAL | $ 767,000 |

## Hawaii

### Hilo

| | |
|---|---|
| Sitework/Drainage | $ 160,000 |
| Paving | 140,000 |
| Asbestos Removal | 40,000 |
| HVAC/Fume Hood | 320,000 |
| Roofing/Building Envelope | 120,000 |
| Electrical Systems | 280,000 |
| Life Safety Concerns | 125,000 |
| TOTAL | $ 1,185,000 |

### Honolulu

| | |
|---|---|
| HVAC/Fume Hood | $ 264,000 |
| Roofing/Building Envelope | 90,000 |
| Electrical Systems | 227,000 |
| Life Safety Concerns | 108,000 |
| Miscellaneous | 29,000 |
| TOTAL | $ 718,000 |

### Kauai

| | |
|---|---|
| HVAC/Fume Hood | $ 186,000 |
| Roofing/Building Envelope | 60,000 |
| Electrical Systems | 68,000 |
| Life Safety Concerns | 100,000 |
| TOTAL | $ 414,000 |

## Idaho

### Boise

| | |
|---|---|
| Sitework/Drainage | $ 10,000 |
| Asbestos Removal | 10,000 |
| HVAC/Fume Hood | 50,000 |
| Life Safety Concerns | 65,000 |
| TOTAL | $ 135,000 |

### Dubois

| | |
|---|---|
| Sitework/Drainage | $ 102,000 |
| HVAC/Fume Hood | 992,000 |
| Roofing/Building Envelope | 209,000 |
| Electrical Systems | 209,000 |
| Life Safety Concerns | 43,000 |
| TOTAL | $ 1,555,000 |

### Kimberly

| | |
|---|---|
| Sitework/Drainage | $ 52,000 |
| Paving | 60,000 |
| Asbestos Removal | 18,000 |
| HVAC/Fume Hood | 75,000 |
| Roofing/Building Envelope | 40,000 |
| Electrical Systems | 30,000 |
| Structural Systems | 25,000 |
| Life Safety Concerns | 210,000 |
| TOTAL | $ 510,000 |

## Illinois

### Peoria

| | |
|---|---|
| Sitework/Drainage | $ 1,235,000 |
| Asbestos Removal | 5,576,000 |
| HVAC/Fume Hood | 14,758,000 |
| Roofing/Building Envelope | 48,000 |
| Electrical Systems | 5,911,000 |

### Peoria

| | |
|---|---|
| Structural Systems | 3,804,000 |
| Life Safety Concerns | 5,756,000 |
| TOTAL | $37,088,000 |

### Urbana

| | |
|---|---|
| Roofing/Building Envelope | $ 32,000 |
| TOTAL | $ 32,000 |

## Iowa

### Ames

| | |
|---|---|
| Sitework/Drainage | $ 161,000 |
| Paving | 64,000 |
| Asbestos Removal | 756,000 |
| HVAC/Fume Hood | 73,000 |
| Roofing/Building Envelope | 551,000 |
| Electrical Systems | 292,000 |
| Structural Systems | 97,000 |
| Life Safety Concerns | 6,000 |
| TOTAL | $ 2,000,000 |

## Kansas

### Manhattan

| | |
|---|---|
| Sitework/Drainage | $ 15,000 |
| HVAC/Fume Hood | 900,000 |
| Roofing/Building Envelope | 600,000 |
| TOTAL | $ 1,515,000 |

## Louisiana

### Baton Rouge

| | |
|---|---|
| Sitework/Drainage | $ 4,000 |
| HVAC/Fume Hood | 50,000 |
| Roofing/Building Envelope | 73,000 |
| Life Safety Concerns | 47,000 |
| TOTAL | $ 174,000 |

### Houma

| | |
|---|---|
| Paving | $ 36,000 |
| Asbestos Removal | 45,000 |
| Roofing/Building Envelope | 98,000 |
| Life Safety Concerns | 59,000 |
| Miscellaneous | 108,000 |
| TOTAL | $ 346,000 |

### New Orleans

| | |
|---|---|
| Asbestos Removal | $ 355,000 |
| HVAC/Fume Hood | 5,320,000 |

### New Orleans

| | |
|---|---|
| Roofing/Building Envelope | 3,030,000 |
| Electrical Systems | 3,619,000 |
| Structural Systems | 529,000 |
| Life Safety Concerns | 572,000 |
| TOTAL | $13,425,000 |

## Maine

### Orono

| | |
|---|---|
| HVAC/Fume Hood | $ 100,000 |
| Roofing/Building Envelope | 425,000 |
| Electrical Systems | 50,000 |
| Life Safety Concerns | 35,000 |
| TOTAL | $ 610,000 |

## Maryland

### Beltsville

Comprehensive study underway which will assess deficiencies and assist Agency managers in identifying appropriate solutions.

## Massachusetts

### Boston

| | |
|---|---|
| HVAC/Fume Hood | $ 250,000 |
| Structural Systems | 50,000 |
| TOTAL | $ 300,000 |

## Michigan

### East Lansing

| | |
|---|---|
| Sitework/Drainage | $ 379,000 |
| Paving | 63,000 |
| Asbestos Removal | 1,262,000 |
| HVAC/Fume Hood | 1,369,000 |
| Roofing/Building Envelope | 334,000 |
| Electrical Systems | 227,000 |
| Structural Systems | 38,000 |
| TOTAL | $ 3,672,000 |

## Minnesota

### East Grand Forks

| | |
|---|---|
| Sitework/Drainage | $ 13,000 |
| HVAC/Fume Hood | 38,000 |
| Roofing/Building Envelope | 44,000 |
| Electrical Systems | 38,000 |
| TOTAL | $ 133,000 |

### Morris

| | |
|---|---|
| Paving | $ 54,000 |
| Asbestos Removal | 323,000 |
| HVAC/Fume Hood | 141,000 |
| Roofing/Building Envelope | 46,000 |
| Electrical Systems | 46,000 |
| Life Safety Concerns | 23,000 |
| Miscellaneous | 32,000 |
| TOTAL | $ 665,000 |

### St. Paul

| | |
|---|---|
| Asbestos Removal | $ 32,000 |
| HVAC/Fume Hood | 18,000 |
| Roofing/Building Envelope | 76,000 |
| Life Safety Concerns | 15,000 |
| TOTAL | $ 141,000 |

## Mississippi

### Mississippi State

| | |
|---|---|
| Sitework/Drainage | $ 335,000 |
| Paving | 141,000 |
| Asbestos Removal | 100,000 |
| HVAC/Fume Hood | $ 148,000 |
| Roofing/Building Envelope | 509,000 |
| Electrical Systems | 9,000 |
| Structural Systems | 8,000 |
| Life Safety Concerns | 5,000 |
| TOTAL | $ 1,255,000 |

### Oxford

| | |
|---|---|
| Sitework/Drainage | $ 65,000 |
| Paving | 65,000 |
| Asbestos Removal | 6,000 |
| HVAC/Fume Hood | 583,000 |
| Roofing/Building Envelope | 208,000 |
| Electrical Systems | 61,000 |
| Life Safety Concerns | 43,000 |
| Miscellaneous | 105,000 |
| TOTAL | $ 1,136,000 |

### Poplarville

| | |
|---|---|
| Sitework/Drainage | $ 38,000 |
| Paving | 24,000 |
| Asbestos Removal | 50,000 |
| HVAC/Fume Hood | 35,000 |
| Roofing/Building Envelope | 60,000 |
| Electrical Systems | 8,000 |
| Structural Systems | 41,000 |
| Life Safety Concerns | 3,000 |
| TOTAL | $ 259,000 |

### Stoneville

| | |
|---|---|
| Sitework/Drainage | $ 313,000 |
| Paving | 444,000 |
| Asbestos Removal | 36,000 |
| HVAC/Fume Hood | 1,484,000 |
| Roofing/Building Envelope | 670,000 |
| Electrical Systems | 417,000 |
| Structural Systems | 115,000 |
| Life Safety Concerns | 490,000 |
| Miscellaneous | 260,000 |
| TOTAL | $ 4,229,000 |

## Missouri

### Columbia

| | |
|---|---|
| Paving | $ 38,000 |
| Asbestos Removal | 95,000 |
| HVAC/Fume Hood | 126,000 |
| Roofing/Building Envelope | 38,000 |
| Electrical Systems | 44,000 |
| TOTAL | $ 341,000 |

## Montana

### Miles City

| | |
|---|---|
| Sitework/Drainage | $ 50,000 |
| Paving | 264,000 |
| Asbestos Removal | 100,000 |
| HVAC/Fume Hood | 118,000 |
| Roofing/Building Envelope | 150,000 |
| Electrical Systems | 12,000 |
| Life Safety Concerns | 60,000 |
| TOTAL | $ 754,000 |

### Sidney

| | |
|---|---|
| Sitework/Drainage | $ 15,000 |
| Paving | 75,000 |
| TOTAL | $ 90,000 |

## Nebraska

### Clay Center

| | |
|---|---|
| Sitework/Drainage | $ 954,000 |
| Paving | 607,000 |
| Asbestos Removal | 120,000 |
| HVAC/Fume Hood | 589,000 |
| Roofing/Building Envelope | 1,689,000 |
| Electrical Systems | 418,000 |
| Life Safety Concerns | 360,000 |
| TOTAL | $ 4,737,000 |

Lincoln

| | |
|---|---|
| Roofing/Building Envelope | $ 50,000 |
| TOTAL | $ 50,000 |

**Nevada**

Reno

| | |
|---|---|
| HVAC/Fume Hood | $ 80,000 |
| Roofing/Building Envelope | 25,000 |
| Electrical Systems | 15,000 |
| Life Safety Concerns | 40,000 |
| TOTAL | $ 160,000 |

**New Mexico**

Las Cruces

| | |
|---|---|
| Sitework/Drainage | $ 539,000 |
| Paving | 98,000 |
| Roofing/Building Envelope | 32,000 |
| TOTAL | $ 669,000 |

Mesilla Park

| | |
|---|---|
| Life Safety Concerns | $ 21,000 |
| TOTAL | $ 21,000 |

**New York**

Ithaca

| | |
|---|---|
| HVAC/Fume Hood | $ 179,000 |
| Roofing/Building Envelope | 156,000 |
| Electrical Systems | 78,000 |
| Life Safety Concerns | 34,000 |
| TOTAL | $ 447,000 |

Plum Island

| | |
|---|---|
| Sitework/Drainage | $ 1,568,000 |
| Paving | 866,000 |
| HVAC/Fume Hood | 38,065,000 |
| Roofing/Building Envelope | 1,746,000 |
| Electrical Systems | 8,091,000 |
| Structural Systems | 381,000 |
| Life Safety Concerns | 2,205,000 |
| Miscellaneous | 4,493,000 |
| TOTAL | $57,415,000 |

**North Carolina**

Oxford

| | |
|---|---|
| HVAC/Fume Hood | $ 99,000 |
| Roofing/Building Envelope | 39,000 |

### Oxford

| | | |
|---|---|---|
| Electrical Systems | | 39,000 |
| Life Safety Concerns | | 20,000 |
| | TOTAL $ | 197,000 |

### Raleigh

| | | |
|---|---|---|
| HVAC/Fume Hood | $ | 12,000 |
| Roofing/Building Envelope | | 92,000 |
| Electrical Systems | | 12,000 |
| | TOTAL $ | 116,000 |

## North Dakota

### Fargo

| | | |
|---|---|---|
| Paving | $ | 65,000 |
| HVAC/Fume Hood | | 265,000 |
| Roofing/Building Envelope | | 604,000 |
| Life Safety Concerns | | 60,000 |
| | TOTAL $ | 994,000 |

### Grand Forks

| | | |
|---|---|---|
| Sitework/Drainage | $ | 25,000 |
| Paving | | 42,000 |
| HVAC/Fume Hood | | 194,000 |
| Roofing/Building Envelope | | 244,000 |
| Electrical Systems | | 136,000 |
| Life Safety Concerns | | 30,000 |
| | TOTAL $ | 671,000 |

### Mandan

| | | |
|---|---|---|
| Sitework/Drainage | $ | 190,000 |
| Paving | | 96,000 |
| Asbestos Removal | | 120,000 |
| HVAC/Fume Hood | | 240,000 |
| Roofing/Building Envelope | | 596,000 |
| Electrical Systems | | 100,000 |
| | TOTAL $ | 1,342,000 |

## Ohio

### Coshocton

| | | |
|---|---|---|
| Sitework/Drainage | $ | 7,000 |
| Paving | | 13,000 |
| Roofing/Building Envelope | | 252,000 |
| Electrical Systems | | 13,000 |
| Structural Systems | | 95,000 |
| | TOTAL $ | 380,000 |

### Delaware

| | |
|---|---|
| Roofing/Building Envelope | $ 44,000 |
| Life Safety Concerns | 25,000 |
| TOTAL | $ 69,000 |

## Oklahoma

### Durant

| | |
|---|---|
| Sitework/Drainage | $ 433,000 |
| Asbestos Removal | 369,000 |
| HVAC/Fume Hood | 1,449,000 |
| Roofing/Building Envelope | 672,000 |
| Electrical Systems | 1,052,000 |
| Life Safety Concerns | 158,000 |
| Miscellaneous | 435,000 |
| TOTAL | $ 4,568,000 |

### El Reno

| | |
|---|---|
| Sitework/Drainage | $ 942,000 |
| Paving | 227,000 |
| Asbestos Removal | 225,000 |
| HVAC/Fume Hood | 2,278,000 |
| Roofing/Building Envelope | 2,576,000 |
| Electrical Systems | 1,541,000 |
| Structural Systems | 81,000 |
| Life Safety Concerns | 236,000 |
| Miscellaneous | 346,000 |
| TOTAL | $ 8,452,000 |

### Lane

| | |
|---|---|
| Electrical Systems | $ 32,000 |
| Structural Systems | 39,000 |
| TOTAL | $ 71,000 |

### Stillwater

| | |
|---|---|
| Paving | $ 84,000 |
| HVAC/Fume Hood | 116,000 |
| Roofing/Building Envelope | 300,000 |
| TOTAL | $ 500,000 |

### Woodward

| | |
|---|---|
| Sitework/Drainage | $ 350,000 |
| Paving | 152,000 |
| Asbestos Removal | 98,000 |
| HVAC/Fume Hood | 62,000 |
| Roofing/Building Envelope | 472,000 |
| Electrical Systems | 205,000 |
| Life Safety Concerns | 45,000 |
| TOTAL | $ 1,384,000 |

## Oregon

### Burns

| | | |
|---|---|---|
| Sitework/Drainage | | $ 300,000 |
| Asbestos Removal | | 25,000 |
| HVAC/Fume Hood | | 25,000 |
| Roofing/Building Envelope | | 65,000 |
| Structural Systems | | 175,000 |
| Life Safety Concerns | | 80,000 |
| | TOTAL | $ 670,000 |

### Corvallis

| | | |
|---|---|---|
| Sitework/Drainage | | $ 50,000 |
| Paving | | 90,000 |
| HVAC/Fume Hood | | 140,000 |
| Roofing/Building Envelope | | 59,000 |
| Electrical Systems | | 25,000 |
| Structural Systems | | 50,000 |
| Life Safety Concerns | | 100,000 |
| | TOTAL | $ 514,000 |

### Pendleton

| | | |
|---|---|---|
| Sitework/Drainage | | $ 28,000 |
| Paving | | 40,000 |
| HVAC/Fume Hood | | 97,000 |
| Roofing/Building Envelope | | 50,000 |
| Electrical Systems | | 30,000 |
| Life Safety Concerns | | 48,000 |
| | TOTAL | $ 293,000 |

## Pennsylvania

### University Park

| | | |
|---|---|---|
| HVAC/Fume Hood | | $ 312,000 |
| Roofing/Building Envelope | | 408,000 |
| Electrical Systems | | 147,000 |
| Life Safety Concerns | | 81,000 |
| | TOTAL | $ 948,000 |

### Wyndmoor

| | | |
|---|---|---|
| HVAC/Fume Hood | | $ 3,007,000 |
| Roofing/Building Envelope | | 1,105,000 |
| Electrical Systems | | 1,669,000 |
| Life Safety Concerns | | 552,000 |
| Miscellaneous | | 58,000 |
| | TOTAL | $ 6,391,000 |

## Puerto Rico

### Mayaquez/Isabella

| | | |
|---|---|---|
| Miscellaneous | | $ 344,000 |
| | TOTAL | $ 344,000 |

## South Carolina

### Clemson

| | | |
|---|---|---|
| Paving | $ | 22,000 |
| Roofing/Building Envelope | | 34,000 |
| | TOTAL $ | 56,000 |

### Florence

| | | |
|---|---|---|
| Asbestos Removal | $ | 19,000 |
| HVAC/Fume Hood | | 94,000 |
| Roofing/Building Envelope | | 38,000 |
| Electrical Systems | | 38,000 |
| | TOTAL $ | 189,000 |

## South Dakota

### Brookings

| | | |
|---|---|---|
| Sitework/Drainage | $ | 55,000 |
| Paving | $ | 264,000 |
| HVAC/Fume Hood | | 90,000 |
| Electrical Systems | | 53,000 |
| Life Safety Concerns | | 40,000 |
| | TOTAL $ | 502,000 |

## Tennessee

### Jackson

| | | |
|---|---|---|
| Miscellaneous | $ | 15,000 |
| | TOTAL $ | 15,000 |

### Lewisburg

| | | |
|---|---|---|
| Sitework/Drainage | $ | 12,000 |
| Paving | | 75,000 |
| Roofing/Building Envelope | | 18,000 |
| Structural Systems | | 14,000 |
| Life Safety Concerns | | 11,000 |
| Miscellaneous | | 9,000 |
| | TOTAL $ | 139,000 |

## Texas

### Brownwood

| | | |
|---|---|---|
| Sitework/Drainage | $ | 60,000 |
| Paving | | 20,000 |
| Roofing/Building Envelope | | 16,000 |
| | TOTAL $ | 96,000 |

### Bushland

| | | |
|---|---|---|
| Sitework/Drainage | $ | 549,000 |
| Paving | | 82,000 |

Bushland

| | |
|---|---|
| HVAC/Fume Hood | 1,706,000 |
| Roofing/Building Envelope | 869,000 |
| Electrical Systems | 901,000 |
| Life Safety Concerns | 230,000 |
| TOTAL | $ 4,337,000 |

College Station

| | |
|---|---|
| Sitework/Drainage | $ 551,000 |
| Paving | 32,000 |
| HVAC/Fume Hood | 2,106,000 |
| Roofing/Building Envelope | 1,331,000 |
| Electrical Systems | 1,418,000 |
| Life Safety Concerns | 269,000 |
| Miscellaneous | 170,000 |
| TOTAL | $ 5,877,000 |

Houston

| | |
|---|---|
| Electrical Systems | $ 82,000 |
| TOTAL | $ 82,000 |

Kerrville

| | |
|---|---|
| Sitework/Drainage | $ 469,000 |
| HVAC/Fume Hood | 1,733,000 |
| Roofing/Building Envelope | 484,000 |
| Electrical Systems | 1,240,000 |
| Life Safety Concerns | 269,000 |
| Miscellaneous | 739,000 |
| TOTAL | $ 4,934,000 |

Lubbock

| | |
|---|---|
| Sitework/Drainage | $ 1,263,000 |
| Asbestos Removal | 30,000 |
| HVAC/Fume Hood | 1,907,000 |
| Roofing/Building Envelope | 1,345,000 |
| Electrical Systems | 1,538,000 |
| Life Safety Concerns | 327,000 |
| Miscellaneous | 376,000 |
| TOTAL | $ 6,786,000 |

Temple

| | |
|---|---|
| Sitework/Drainage | $ 508,000 |
| Asbestos Removal | 144,000 |
| HVAC/Fume Hood | 1,309,000 |
| Roofing/Building Envelope | 1,020,000 |
| Electrical Systems | 1,330,000 |
| Life Safety Concerns | 268,000 |
| Miscellaneous | 608,000 |
| TOTAL | $ 5,187,000 |

### Weslaco

| | | |
|---|---|---|
| Sitework/Drainage | | $ 716,000 |
| Asbestos Removal | | 1,312,000 |
| HVAC/Fume Hood | | 2,692,000 |
| Roofing/Building Envelope | | 3,233,000 |
| Electrical Systems | | 2,225,000 |
| Life Safety Concerns | | 483,000 |
| Miscellaneous | | 561,000 |
| | TOTAL | $11,222,000 |

## Utah

### Logan

| | | |
|---|---|---|
| Paving | | $ 30,000 |
| Asbestos Removal | | 75,000 |
| Roofing/Building Envelope | | 165,000 |
| | TOTAL | $ 270,000 |

## Virginia

### Suffolk

| | | |
|---|---|---|
| HVAC/Fume Hood | | $ 26,000 |
| Roofing/Building Envelope | | 11,000 |
| | TOTAL | $ 37,000 |

## Virgin Islands

### St. Croix

| | | |
|---|---|---|
| Sitework/Drainage | | $ 30,000 |
| Roofing/Building Envelope | | 123,000 |
| Structural Systems | | 115,000 |
| | TOTAL | $ 268,000 |

## Washington

### Prosser

| | | |
|---|---|---|
| Sitework/Drainage | | $ 50,000 |
| Paving | | 70,000 |
| Asbestos Removal | | 30,000 |
| HVAC/Fume Hood | | 69,000 |
| Roofing/Building Envelope | | 80,000 |
| Electrical Systems | | 50,000 |
| Structural Systems | | 100,000 |
| Life Safety Concerns | | 86,000 |
| | TOTAL | $ 535,000 |

### Pullman

| | | |
|---|---|---|
| Sitework/Drainage | | $ 50,000 |
| Paving | | 68,000 |
| Asbestos Removal | | 55,000 |
| HVAC/Fume Hood | | 100,000 |

Pullman

| | | |
|---|---|---|
| Roofing/Building Envelope | | 90,000 |
| Electrical Systems | | 60,000 |
| Structural Systems | | 88,000 |
| Life Safety Concerns | | 80,000 |
| | TOTAL $ | 591,000 |

Wenatchee

| | | |
|---|---|---|
| Sitework/Drainage | $ | 50,000 |
| Paving | | 40,000 |
| HVAC/Fume Hood | | 60,000 |
| Roofing/Building Envelope | | 35,000 |
| Structural Systems | | 50,000 |
| Life Safety Concerns | | 50,000 |
| | TOTAL $ | 285,000 |

Yakima

| | | |
|---|---|---|
| Paving | $ | 50,000 |
| HVAC/Fume Hood | | 125,000 |
| Roofing/Building Envelope | | 75,000 |
| Electrical Systems | | 50,000 |
| Structural Systems | | 79,000 |
| Life Safety Concerns | | 68,000 |
| | TOTAL $ | 447,000 |

## West Virginia

Beckley

| | | |
|---|---|---|
| HVAC/Fume Hood | $ | 51,000 |
| Roofing/Building Envelope | | 48,000 |
| | TOTAL $ | 99,000 |

Kearneysville

| | | |
|---|---|---|
| Sitework/Drainage | $ | 71,000 |
| Paving | | 71,000 |
| HVAC/Fume Hood | | 225,000 |
| Roofing/Building Envelope | | 226,000 |
| Electrical Systems | | 125,000 |
| | TOTAL $ | 718,000 |

## Wisconsin

Madison

| | | |
|---|---|---|
| Asbestos Removal | $ | 323,000 |
| HVAC/Fume Hood | | 877,000 |
| Roofing/Building Envelope | | 392,000 |
| Electrical Systems | | 241,000 |
| Life Safety Concerns | | 183,000 |
| Miscellaneous | | 58,000 |
| | TOTAL $ | 2,074,000 |

Wyoming

Cheyenne

| | |
|---|---|
| Sitework/Drainage | $ 65,000 |
| Paving | 60,000 |
| Asbestos Removal | 120,000 |
| Life Safety Concerns | 60,000 |
| TOTAL | $ 305,000 |

Laramie

| | |
|---|---|
| Sitework/Drainage | $ 110,000 |
| Paving | 60,000 |
| HVAC/Fume Hood | 65,000 |
| Roofing/Building Envelope | 110,000 |
| TOTAL | $ 345,000 |

TOTAL R&M $257,512,000

ARS FACILITIES

Question: Also, for the record, please provide an explanation of why funds currently appropriated under the annual program account are restrictive in meeting overall planning and construction needs at the Beltsville Agricultural Research Center (BARC). Please cite modernization projects at BARC which have required resources from both the Program Account and the Buildings and Facilities account.

Answer: As a result of the age of ARS facilities and the extent of needed upgrade, the planning and construction needs are significant in terms of funds and the length of time required to process design and construction contract actions. The nature and complexity of designing, planning, and implementing renovation of numerous facilities at BARC require that funding be available beyond a 1-year time period. A typical facility upgrade project will involve (1) a study to identify all deficiencies, code violation, etc.; (2) design to develop bidding documents; and (3) construction, all of which can take up to 4 to 5 years to complete. The building and facilities appropriation is established for major construction projects and funds are available until expended. Prudent management requires that these funds be available, if necessary, beyond the fiscal year in which they are appropriated.

In FY 1988, $11.5 million was earmarked for BARC facility upgrade. The funds were allocated as follows:

| | |
|---|---|
| Operating Funds (Program) | $ 1,280,000 |
| Renaissance 93 (Program) | 1,000,000 |
| Repair and Maintenance (Program) | 2,800,000 |
| Energy Retrofit (Program) | 200,000 |
| SCS Road (Construction of Facilities) | 450,000 |
| Building 007 (Buildings and Facilities) | 2,000,000 |

| | |
|---|---|
| General Upgrade (Buildings & Facilities) | 2,600,000 |
| Water Line Repair (Buildings & Facilities) | 1,150,000 |
| | $11,480,000 |

Examples of projects which required combining funds from the Buildings and Facilities account, the Construction of Facilities account and Program account in order to finance total project needs are as follows:

| Requirement | FY 1988 Obligations | Funding Source |
|---|---|---|
| Building 007 | $4,712,000 | General Upgrade (Buildings and Facilities) Upgrade Repair and Maintenance (Program) Renaissance 93 (Program) Operating Funds (Program) Building 007 (Buildings and Facilities) |

| Requirement | FY 1988 Obligations | Funding Source |
|---|---|---|
| Building 303 | 579,000 | General Upgrade (Buildings and Facilities) Renaissance 93 (Program) |
| SCS Road | 1,573,000 | SCS Road (Construction of Facilities) Repair and Maintenance (Program) |

In FY 1988, the above appropriations were utilized to upgrade BARC facilities and infrastructure needs and were combined in order to obtain complete usable products.

In FY 1989, the following combined funding situation is contemplated:

| Requirement | Estimated Amount | Funding Source |
|---|---|---|
| Building 003 | $5,900,000 | Designed with General Upgrade (Buildings and Facilities) Funding. Construction with FY 1989 Renaissance 93 (Program) and Repair and Maintenance (Program). |

## URBAN PEST CONTROL RESEARCH

Question: Urban pest control protects the health and property of millions of Americans on a daily basis. I have been told that only a small amount of funding is available for research on pests, such as cockroaches, fleas, termites, rodents, etc., although the problems caused by these pests have increased steadily over the past several years. Is this a concern of USDA? To what extent is the Department involved in urban pest research and control?

Answer: ARS is vitally concerned about the increasing problems caused by pests that affect the health and property of millions of Americans in the urban setting. A strong research program provides environmentally compatible technologies for the management of such widespread urban pests as mosquitoes, flies, ticks, imported fire ants, gypsy moths, and other pests of ornamental plantings, lawns, and fruit and vegetable gardens. New technologies and strategies for cockroach and flea control are being developed at the Insects Affecting Man and Animals Research Laboratory in Gainesville, Florida. Termite control research is conducted by the Forest Service; rodent control research and operational programs are implemented by the Animal and Plant Health Inspection Service; lawn protection research is conducted at Beltsville, Maryland, and Wooster, Ohio; and ornamental crops protection research is conducted at Beltsville, Maryland, the U.S. National Arboretum, Delaware, Ohio, and Corvallis, Oregon.

---

## QUESTIONS SUBMITTED BY SENATOR MCCLURE

### NATIONAL SEED STORAGE LABORATORY
### FORT COLLINS, COLORADO

Question: I support the efforts to expand and update facilities at the National Seed Storage Lab. What is the expected completion date for this expansion?

Answer: Construction cannot be initiated with $2.75 million in available funds. Total construction funds required for this project amount to $11.5 million. The Agricultural Research Service is requesting $8.75 million in the FY 1990 Budget which would fully fund the project. If the total funding is provided in the FY 1990 Appropriation Act, we estimate that the new seed vault construction will be completed in September 1992, and laboratory remodelling in September 1993.

### POTATO RESEARCH

Question: I will move to another issue which is of importance to Idaho, that of funding for the National Potato Council's national research proposals. I thank you on behalf of the Idaho potato growers for the excellent job you and your researchers have been doing with this and other potato research programs. Could you provide an update on the expenditures of the national program by State and identify the progress made in the areas of marketing, aphid, and potato beetle research?

Answer: We have potato research located in 10 States and provide extramural research funds in 6 additional States.

Marketing, aphid, and potato beetle research programs have been ongoing for several years. Extensive marketing research has been done including germplasm and variety development for potato disease resistance both in the field and in storage; increased quality factors, such as flavor, nutrition, storageability, and appearance; and improved processed potato product quality. ARS potato research on handling, storing, and transporting methods has led to bulk bin storage practices now used throughout the U.S. Our processing research, particularly potato dehydration, has increased uses and increased per capita consumption. Research has recently increased on chipping potato production to serve an increasingly important segment of the industry. Aphid and potato beetle research relates primarily to insect biology, biological control methods, and breeding for insect resistance. Wild potato species introduced from South America have natural sources of insect resistance and ARS potato breeders are developing new resistant varieties. Most FY 1989 extramural research projects are related to marketing, aphid, and potato beetle research.

The estimated FY 1989 and FY 1990 funding by State is shown in the following table:

Potato Research

| State | FY 1989 Estimated | FY 1990 Estimated |
|---|---|---|
| California | $ 503,300 | $ 503,300 |
| Idaho | 701,800 | 701,800 |
| Maine | 261,800 | 261,800 |
| Minnesota | 1,221,900 | 1,221,900 |
| New York | 237,000 | 237,000 |
| Ohio | 23,600 | 23,600 |
| Pennsylvania | 896,100 | 896,100 |
| Washington | 1,209,500 | 1,209,500 |
| Maryland | 2,123,800 | 2,123,800 |
| Wisconsin | 557,700 | 557,700 |
| Extramural Research | 1,143,200* | 1,143,200 |
| | $8,879,700 | $8,879,700 |

*Includes funding of 24 extramural research projects in 12 States - California - $30,000; Colorado - $33,340; Florida - $30,000; Idaho - $188,467; Massachusetts - $20,790; Michigan - $57,210; Minnesota - $45,000; New York - $114,750; North Dakota - $182,470; Ohio - $35,000; Oregon - $82,973, and Washington - $28,000.

## DARK END SYNDROME

Question: I am also interested in the final report on ARS research done on dark end syndrome. I commend the fine research done at the Kimberly ARS research station on this problem. I know that they have done their best to provide the research efforts necessary to advise farmers on how best to deal with this environmentally caused problem. I urge you to provide adequate funding for the Kimberly research station as they return to their main function--that of finding ways to reduce soil erosion and sedimentation in our streams. Could you please provide me with a break down of the programs now under way at the Kimberly station? I understand that the station may need funding to purchase lands which the station currently leases. Please provide me with an update on this issue and the amounts necessary to purchase lands which may maintain stability in their programs.

Answer: Dark end syndrome on potatoes is caused primarily by high soil temperature at tuber set, soil compaction, and inadequate water management practices. Improved irrigation timing and tillage practices can alleviate the problem in some cases. The research will continue during the 1989 growing season on the nutritional aspects of dark end syndrome. A final report will be available in 1990.

ARS programs presently underway at Kimberly research center include:

1. Developing irrigation and cultural practices to improve potato tuber quality.
2. Developing methods for integrating scheduling of irrigations with tillage and other agronomic practices to optimize water use efficiency.
3. Developing conservation tillage and cropping sequence systems to reduce erosion and sediment loss and improve soil stability.
4. Developing soil fertility, plant nutritional and residue management systems to optimize plant growth, crop quality, and fertilizer efficiencies.
5. Developing systems, operational criteria, and management practices to apply irrigation water efficiently, control water intake, and reduce energy and other operating costs.
6. Developing fertilization, irrigation, and tillage practices and cropping sequences to efficiently utilize nitrogen to reduce nitrate leaching to the groundwater.

Permanent land for field research at Kimberly is still a constraint in determining long-term effects and sustainability of practices involving erosion, crop rotations, residue management, compaction, soilborne diseases, water use efficiency, and downward movement of agricultural chemicals. Long-term costs to the government would be reduced and the amount and quantity of research would be improved if land near the Kimberly laboratory were purchased. About 120 acres is needed for field research. Land costs in the area near the laboratory are about $3,000/acre so total cost would be about $360,000.

## ARS SHEEP EXPERIMENT STATION
## DUBOIS, ID

Question. I am pleased to see that one of the five major concerns of the ARS is the need for modern facilities and equipment. I have been slowly adding funds to upgrade the facilities and equipment at the ARS Sheep Experiment Station at Dubois, Idaho. Most of their laboratories are outmoded. Until the past two years, station employees were feeding the sheep with 1945 vintage feed trucks. One truck even had no seat, employees were using an upturned bucket as a driving seat. I continue to request funds for upgrading this facility and hope that you will work with me to address their most pressing needs. Please provide for me a list of the most pressing needs of the station and the cost to upgrade them, both facilities and equipment.

Answer: A list of the most pressing facility and equipment needs of the U.S. Sheep Experiment Station, Dubois, ID and the cost to upgrade them is as follows:

Upgrade Range Nutrition Research Faciltles and Equipment. This includes the costs of adding sheds, ventilation and lighting systems; feed mixing equipment and diet storage bins; pens, feeders, and waterers; and analytical labratory equipment. $181,000

Replace Operations Equipment. This includes the cost of replacing a 1945 feed truck, a 1950's surplus tractor with backhoe and loader, and replacement of a 1960's surplus dump truck. $165,000

Modernize chemical waste storage, waste disposal and fuel storage facilities. This includes the costs of renovating the hazardous chemical and waste storage facility; building for waste incinerator structure; walk-in freezer; electrical and plumbing modernization; and removal and replacement of two underground fuel tanks. $104,000

## DINOSEB

Question: I would like to address the same question to you that I addressed to Secretary Yeutter last week. It deals with the apparent notice to ARS researchers that all research must be basic research--that no applied research will be done. While I agree with the proposal that industry must fund applied research, I disagree with this directive because it has placed the pea and lentil industry at risk. In 1986, the EPA issued an emergency suspension of dinoseb, causing its immediate disuse. The pea and lentil producers, because they had no alternative to dinoseb, were allowed to continue using dinoseb until this year, under strict surveillance. This year EPA will not allow its use. This week, the pea and lentil industry was issued a Section 18 permit to use an experimental herbicide, Pursuit, which does not do as good a job as dinoseb but is better than nothing. At the request of the industry, ARS researchers at Pullman, Washington, were conducting screening tests of chemicals which might be able to replace dinoseb. Industry was paying for this research but using ARS researchers much as they had in the past, when local problems threatened agricultural production. The first of this year, ARS researchers were told to cease this testing because it is considered to be applied research not basic. I disagree with this policy. What have you done to reverse this policy decision and has research on this replacement for dinoseb been resumed? If not when can I expect it to resume?

Answer: First, let me assure the Senator that at no time have ARS scientists been instructed to discontinue or diminish research on a replacement for dinoseb. They have not done so. ARS carries out both basic and applied research in conduct of its mission. Approximately half its resources are directed to applied and developmental research. The research continues uninterupted to explore every possible approach to discovering and developing improved alternatives for weed control in legumes. ARS scientists at Pullman, Washington, began work on alternatives to dinoseb several years ago when ARS first anticipated that regulatory action might be taken against dinoseb and before actual cancellation of the registration took place in the fall of 1986. This work has continued into the fourth year both in field trials and as part of an IPM study involving conservation tillage. Plans for the 1989 growing season include a field trial involving Pursuit and Metribuzin in dry peas, lentils, and chick peas. It is likely that a highly effective tank mix of Pursuit and Metribuzin will be registered in the near future. This combination of products will cost approximately $20/per acre which may be prohibitive for some farmers. To date, all herbicides and herbicide combinations that appear to have potential utility in weed control in these crops have been evaluated. Additional candidate materials will be evaluated as they become available from the chemical industry. Research will continue on weed control alternatives to dinoseb for the foreseeable future.

## WATER QUALITY RESEARCH

Question: I noted in ARS/CSRS Report - USDA Research Plan for Water Quality that a Midwest Initiative is planned to assess the severity and extent of groundwater quality problems in selected production areas in the Midwest. This will demonstrate a systems approach to problem solving to determine combinations of production practices that satisfy the economic, environmental, and social needs of the region. How much of the total ARS/CSRS and Extension budgets for groundwater research and education will go toward this Midwest Initiative? Please provide both a dollar amount and a percentage basis.

Answer: The current level of funding for the ARS program on groundwater quality research is $23.4 million. This includes $7.8 million of supporting research on integrated pest management and biological methods of pest control. The base program in groundwater quality for the Midwestern States is $4.6 million, which represents 20% of the current budget. With the $10 million increase requested for Fiscal Year 1990, the total ARS budget for groundwater quality research will be $33.4 million. Support for the Midwest Initiative is projected to remain at or about $8.0 million during the first few years of the project. This level of funding represents about 24% of the projected ARS budget for groundwater quality.

The CSRS total national water quality estimate for fiscal year 1990 is $23.6 million including a budget increase of $6.7 million. Of the $23.6 million, about $6.6 is in the North Central Region, effectively the boundaries of the Midwest Initiative. This $6.6 million includes a proposed increase of $3 million for the Midwest Initiative, which is largely dedicated to research relevant to groundwater quality. New Federal funds also are expected to generated from 3 to 5 times the amount of State and other non-Federal funds to support the research. The $3 million is 45% of the requested increase in the CSRS national water quality program and 13% of the estimated total CSRS water quality effort.

The Extension Service total national water quality estimate for fiscal year 1990 is $31.3 million, including the budget increase of $5.0 million. Of the $31.3 million, about $3.5. million is in the North Central Region. This $3.5. million includes a proposed increase of 0.5 million for the Midwest Initiative, which will be used to transfer existing and newly developed technology to farm audiences for adoption. The 0.5 million is 10% of the requested increase in the ES national water quality program, and the $3.5 million represent 15% of the estimated total ES water qulaity effort.

Question: In addition to the above initiative, a similar systems approach will be used in other regions of the country with vulnerabilities to groundwater contamination by agricultural chemicals. The report states that regions of major concern include those with intensive dryland and irrigated farming, concentrated livestock production, high recharge rates and shallow groundwaters. I would like to suggest that my State of Idaho appears to qualify for inclusion in this initiative. Have you decided upon what States will be chosen for this initiative, outside of the Midwest Initiative? How may I best relay my desire to have Idaho be included in this program? I hope you will suggest how I can best continue to work with you on development of this program and the inclusion of Idaho in it.

Answer: No decision has been made on how research programs within individual States will be integrated into a systems approach for other regions of the country. The need for this integration of effort is recognized, and the comprehensive plan now under development will address this issue. Federal and State scientists in the State of Idaho have the experience and skills to make a major contribution to groundwater quality research and their expertise will be utilized in USDA's planned nation-wide initiative on groundwater quality management.

Of the requested $6.7 million increase for CSRS, $3.7 million will be dedicated to the National Initiative of the USDA Research Plan for Water Quality. This very important research will be on diverse soil, crop, and climatic conditions across the country. The types of research to be funded will be based on the regionally-established priorities and awards will be made on the scientific merits of proposals. As an indication of current interest, CSRS has received about 240 proposals for 1989 funds. Idaho will have the opportunity to compete for funds as will all other States.

## WATER QUALITY

Question: The USDA estimated obligations for Idaho show an increase in ARS obligations to the State of $360,000. What is this for and how was the determination made to increase the budget to Idaho by this amount?

Answer: The estimated increase in ARS obligations for Idaho is intended to promote work on efficient chemical management under surface irrigation, and provide critical disciplinary support for planned ARS initiatives in groundwater quality. The amount of $360,000 is only a preliminary estimate based on the strength and relevance of current programs, and may change following development of a detailed plan of work for USDA's water quality strategy.

## QUESTION SUBMITTED BY SENATOR GRASSLEY

### NATIONAL SEED STORAGE LABORATORY
### FORT COLLINS, COLORADO

Question: Last year, this committee designated $2.75 million for the construction of a new National Seed Storage Lab at Fort Collins, Colorado. How has the construction of this facility progressed? With the full appropriation this year, could this facility be finished in this fiscal year?

Answer: Design of the project is underway and will be complete during early 1990. A construction contract cannot be awarded until the project is fully funded.

## QUESTIONS SUBMITTED BY SENATOR HATFIELD

### CALICIVIRUSES

Question: It is my understanding that increasing numbers of caliciviruses are emerging from natural reservoirs and are threatening the health and safety of domestic livestock. To what extent is ARS currently involved in monitoring the spread of caliciviruses?

Answer: Various strains of caliciviruses have recently been isolated from marine mammals and fish in the Pacific Basin. Caliciviruses have also been found in domestic animals, including livestock. The Agricultural Research Service is involved by developing the necessary tools for the diagnosis and control of calicivirus infections. The sensitive diagnostic tests are in support of the Animal and Plant Health Inspection Service (APHIS) for efforts in monitoring calicivirus infections.

Question: Does ARS currently have a calicivirus research program in place? If so, how much money will be spent on this research in FY 1989?

Answer: In 1985, the Agricultural Research Service established a calicivirus research program. The current FY 1989 funding level is $214,800.

Question: Do you believe that caliciviruses present a serious problem for domestic livestock producers? If so, what level of funding would be necessary to adequately address the problem? If not, why not?

Answer: There is no indication that caliciviruses are causing serious problems for domestic livestock producers. Viruses have been isolated from healthy animals, and certain herds have antibody titers to caliciviruses. To date, these viruses have not been implicated with disease in livestock. However, since a member of this group, vesicular exanthema virus, is responsible for causing vesicular disease in swine and since this virus was eradicated from the U.S. swine population, the Agricultural Research Service will continue to monitor livestock populations for the presence of caliciviruses.

Agricultural Research Service research on caliciviruses is conducted at the National Animal Disease Center, Ames, Iowa. The focus is on genetic characterization and differences among various members of the calicivirus group. Our scientists have sequenced this genetic material and are cloning genes responsible for protective virus surface components. They have also developed a rapid and sensitive test that allows for the identification of calicivirus in animal tissues. We feel that this team is developing the tools for rapid diagnosis that would be necessary should these viruses present a problem to the livestock industry. Our current level of funding is adequate to address this potential problem.

## SMALL FRUITS RESEARCH

Question: Does ARS have a centralized facility that is primarily engaged in small fruits (berries, grapes, etc.) research? If so, where is it (are they) located?

Answer: ARS conducts research on small fruits and grapes at 19 locations but the only location where our research is exclusively on small fruits and grapes is at Poplarville, Mississippi.

Question: The Pacific Northwest is the center of national production and processing of various types of berries and cool-season varietal wine grapes. What percentage of small fruit research funding will be allocated to facilities located in the Pacific Northwest in FY 1989?

Answer: Fourteen percent of ARS total research funds for small fruits and grapes in FY 1989 are allocated to facilities located in the Pacific Northwest.

## MEADOWFOAM RESEARCH

Question: For FY 1989 the Congress appropriated $250,000 for continued meadowfoam research. Please provide me with a progress report on this research.

With only three to four scientist years being allocated to meadowfoam research currently, is it reasonable to expect that it will be a viable crop sufficiently soon to assist in the diversification of U.S. agricultural crops?

Will meadowfoam be viable sufficiently soon to allow farmers to utilize their excess production capacity?

Answer: The work on meadowfoam falls into two main categories, namely, chemical and agronomic. At the ARS Northern

Regional Research Center, Peoria, chemists are characterizing the individual seed oil fatty acids which have unusual chemical composition. Derivatives are also being made and evaluated. In this way the commercial potential of the oil product can be increased. Based on a cooperative agreement between ARS and Oregon State University, research is being performed on agronomic parameters. Plant breeders have successfully developed plants with good seed retention and upright growth habit. The present focus is optimizing oil seed yield per acre to reduce oil production costs. ARS expects commercial development with present resources in about eight years.

## COOPERATIVE STATE RESEARCH SERVICE

## QUESTIONS SUBMITTED BY SENATOR BURDICK

### 1890 COLLEGES AND TUSKEGEE UNIVERSITY

Question: Will new concentration be placed on training 1890 College students for agricultural professions? Will USDA endeavor to recruit more students from the 1890's? If so, how?

Answer: The $11 million request for the 1890 Institution Capacity Building Grants Program will be used to strengthen the capability of the 1890 land-grant institutions and Tuskegee University in both research and teaching. Teaching projects will address such areas as faculty and curricula development, innovative instructional delivery systems, experiential learning opportunities, and student recruitment and retention. New programs will be developed and existing ones improved. Research projects will address high priority initiatives in areas which will contribute to the betterment of the Nation's food and agriculture system and in which USDA has current and anticipated research needs. Each application must identify at least one USDA agency cooperator. The USDA agency will not provide monetary support but rather assistance in developing the proposal and guidance throughout the life of the project. Two of the anticipated results of this program are high quality graduates from the food and agricultural science programs of the 1890 institutions and an increased pool of minority graduates from which USDA can recruit in order to achieve the Department's long-term affirmative action goals. Additionally, the Department has recently announced the establishment of a USDA Office and a liaison at each 1890 institution and Tuskegee University. These individuals are full-time career USDA employees who report to the chair of each State's Food and Agriculture Council. They will coordinate programs of mutual interest, provide guidance and teaching assistance, assist in curriculum development, recruit and counsel students on employment opportunities, particularly within USDA, and develop new ideas and approaches to reach small scale, limited resource and minority farmers.

Question: Will any equipment or facilities be upgraded with 1990 funds for CSRS? Are improvements to these institutions needed, and how would they be accomplished?

Answer: The 1890 Institution Capacity Building Grants Program will not allow the use of funds for facilities. However, the purchase of equipment will be allowed when determined that it is necessary for the conduct of the research and teaching projects supported by the program. In the long run, equipment acquired under this program will upgrade the scientific instrumentation as well as the instructional equipment of the 1890 institutions. Major facility improvements at these institutions were accomplished through a five-year, CSRS 1890 Research Facilities program which ended in fiscal year 1987.

## QUESTIONS SUBMITTED BY SENATOR ADAMS

### HATCH ACT

Question: The Administration's budget appears to request level funding under the Hatch Act program. However, the state by state breakdown made available to my staff by USDA shows a reduction in Hatch Act funds for Washington State of approximately $1.2 million. Given that overall national Hatch Act funding is not being reduced, what accounts for this reduction?

Answer: In fiscal year 1989, Washington State University is entitled to $1,769,448 in Hatch Act formula funds and $1,235,614 in Hatch Act regional research funds. The total Hatch Act funding level remains at $155,545,000 in the fiscal year 1990 budget request, the same as in fiscal year 1989. As required in the Hatch Act, the Committee of Nine determines the Hatch Act regional research distribution among the States and they have not yet determined the fiscal year 1990 distribution. The information your staff received only showed what Washington State University will receive under the formula portion of the Hatch Act. CSRS anticipates that after the regional research distribution has been determined, the Washington Hatch Act funds will be about the same as in fiscal year 1989.

### FORESTRY RESEARCH PROGRAMS

Question: Why does the Administration feel it is necessary at this time to reduce Federal funding under the McIntire-Stennis formula funding program, and initiate a new competitive grants program?

Answer: State research institutions conduct forestry research under other authorizations which provide opportunities to respond to State, regional, and national priorities as appropriate. Even though a portion of the McIntire-Stennis program is proposed for reduction, the State Agricultural Experiment Stations and Forestry Schools have maximum flexibility to tailor research according to specific needs and can continue to fund research in those areas that they identify as highest priority. Funding for the Forestry Competitive Grants program will allow for selected high priority national research areas to be addressed. Research will be conducted on forest biology, ecological aspects of tree communities, and wood chemistry.

### IR-4 PROGRAM

Question: Right now, the major source of Federal support in the minor crop registration area is the IR-4 Program, which supplies residue data. What is the Administration's recommended level of funding for FY 90?

Answer: CSRS is requesting $2.0 million in the FY 1990 Budget for a Special Research Grant on Pesticide Clearance. In addition, approximately $352,000 from Hatch Act regional research funds is supporting the IR-4 project.

Question: Outside experts have said a minimum of $10 million is necessary to do the job right. Isn't this program a major priority that demands adequate funding?

Answer: Yes, it is a priority, and CSRS is requesting $2.0 million in fiscal year 1990, which is an increase of $631,000 over 1989. About one half of the proposed $631,000 increase would go toward compliance for Good Laboratory Practices. The remainder of the proposed increase will support the registration process for minor use agricultural commodities. To meet these demands the research activities of the IR-4 program will be expanded to include additional field experiments and the resultant chemical analyses for residues. The anticipated demand of the reregistration process on minor use crops is great, and the increased funding requested is an important step in addressing this need.

Question: Why isn't this program an approved line item expenditure within the USDA budget, instead of a special grant?

Answer: The Pesticide Clearance grant is an item under the Special Research Grants program which is authorized under Public Law 89-106, as amended. This program concentrates on problems of National and local interest beyond the normal emphasis in the formula program. The objectives of Special Research Grants are to facilitate or expand ongoing State-Federal food and agricultural research programs. We feel the the Pesticide Clearance program clearly fits the objectives of the Special Research Grants program.

Question: It is my understanding that right now, IR-4 primarily provides residue data. It is also my understanding that other types of data, particularly on environmental impact of the chemical, are required as well for reregistration. Who is going to collect this data on chemicals once the chemical companies are no longer involved?

Answer: One of the most creditable groups to collect this type of information is the scientists at our cooperating land-grant institutions.

Question: Is this something that can be done by IR-4?

Answer: Possibly, IR-4 could coordinate such an effort with an appropriate level of resources.

Question: If IR-4 were capable of doing other types of research, assuming it was given the necessary resources, would any structural changes be necessary, or would the current system where IR-4 makes grants available to existing research facilities be adequate?

Answer: The basic organization of IR-4 with national and regional technical committees, State liaison representatives, and a national staff could address other types of pesticide research. However, greater coordination would be necessary to manage the more complex requirements. More managers would be necessary to track the research progress and effect coordination with company pesticide product managers. Grants would be a principal mechanism to obtain the necessary data.

Question: It has been suggested that one solution would be for USDA itself to become the third party registrant? It is my understanding that there is some precedent in programs involving the

Animal and Plant Health Inspection Service. What is the USDA's position regarding becoming a third-party registrant?

Answer: We do not favor the USDA being a third party registrant. The only case a USDA agency has been the registrant is when the primary use of that pesticide is in action programs of that USDA agency in which case we are the primary registrant. Grower organizations, cooperatives, and State agencies which are closer to the specific problem and have a direct and immediate interest in the commodity would be best able to obtain a registration and control use. It is these groups who are best able to assess whether there is need and profit from such registrations. The primary manufacturing company still is vulnerable to product liability as well as liability for certain environmental damage.

Question: If the USDA were to become a third-party registrant what would be necessary? Money? Congressional Direction? Anything else?

Answer: To bring USDA into this role would require a congressional mandate and significant new funding. However, when the company maintains the basic registration it is the grower organizations and State agencies which can best handle special registrations because of their knowledge of the local situation.

### INTERNATIONAL TRADE DEVELOPMENT CENTERS

Question: Given the role that the International Trade Development Centers play in advancing the Administration's overall agricultural policy, why has the Administration proposed eliminating all Federal funding for these programs?

Answer: In view of higher, National interest budget priorities, the trade center program was proposed for elimination in the Fiscal Year 1990 President's Budget. Support for international trade issues is provided through the programs of the Foreign Agricultural Service, the Economic Research Service, and the International Trade Administration of the Commerce Department.

---

## QUESTION SUBMITTED BY SENATOR KERREY

### SMALL BUSINESS' SHARE OF R&D FUNDS

Question: The Small Business Innovative Research --SBIR-- Act requires that 1% of Federal R&D expenditures at each agency be made available under a competitive bid process to small business innovators who have promising ideas but lack research capital. What is your assessment of how well USDA has performed in implementing the SBIR program within your agencies?

Answer: The USDA SBIR program has proven to be a very effective program that supports quality projects that would otherwise not be funded by existing R&D programs within the Department. Seven agencies within the Department contribute 1.25 percent of their extramural R&D funds to the SBIR program and the Cooperative State Research Service --CSRS-- is responsible for administering the program. These funds are pooled and used to support a very broad based program that encompasses all aspects of agriculture. Funding for the fiscal year 1989 program will be $3,942,178. Companies can submit grant proposals to any one of seven broad topic areas: Forests and Related Resources; Plant Production and Protection; Animal Production and Protection; Air, Water and Soils; Food Science and Nutrition; Rural and Community Development; and Aquaculture. In the past three years the number of applications has increased. Applications come from nearly every State and since the program started in 1983, grants have been awarded to small businesses in 38 different States and the District of Columbia.

The same procedure of confidential peer review used to evaluate grant proposals submitted to the CSRS Competitive Research Grants program is also used to evaluate all grant proposals submitted to the SBIR program. Leading researchers from universities and government laboratories are used as reviewers. The Department encourages the SBIR Program Coordinator to conduct site visits with as many grantees as possible and to attend various State and national meetings to promote the SBIR program. The quality of the grant proposals selected for funding compares very favorably to projects funded through other grant programs in the Department.

## QUESTIONS SUBMITTED BY SENATOR COCHRAN

### AQUACULTURE

Question: The Economic Research Service of USDA issued a report last October which states that aquaculture is the fastest growing agricultural industry in the United States, increasing over 20 percent annually in this decade. Are you familiar with the report? What is USDA doing to assist this rapidly growing industry?

Answer: Yes, we are aware of the report and the importance of aquaculture as a major agricultural opportunity. The Department of Agriculture has a number of programs to assist the aquaculture industry. The Department is also responsible for the coordination of all Federal programs in aquaculture through the Joint Subcommittee on Aquaculture.

Within Science and Education there are a number of programs addressing the needs of the aquaculture industry. Through the Cooperative State Research Service, research in aquaculture is supported through the Special Research Grants Program, direct Federal Administration, and through the allocation of formula funds to States. The Cooperative State Research Service, in cooperation with the Extension Service, also administers The Regional Aquaculture Centers Program for the performance of regional research and extension activities. The Agricultural Research Service conducts research at five research laboratories to support the aquaculture industry. The Extension Service supports educational programs in aquaculture through the Cooperative Extension System. The National Agricultural Library provides informational services to the industry through the Aquaculture Information Center.

Agencies outside of Science and Education also have programs aimed at assisting the industry. The Agricultural Marketing Service provides assistance to the aquaculture industry through the

Federal-State Marketing Improvement Program and the Market Research and Development Division. The Foreign Agricultural Service works to assist the industry in developing overseas markets for aquaculture products. The National Agricultural Statistics Service prepares and publishes reports on aquaculture production. The Soil Conservation Service provides detailed assistance for the planning and installation of aquaculture facilities. Additionally, several other agencies within USDA have programs to support this industry including the Animal and Plant Health Inspection Service, Farmers Home Administration, and the Economic Research Service.

## AQUACULTURE EDUCATION

Question: I have been approached by the Future Farmers of America (FFA) Alumni Association regarding the need for aquaculture education and training programs for secondary students and adults in our local communities. Do you share this viewpoint, and if so how would a program of this type be administered?

Answer: Aquaculture is a new and emerging area within the Nation's food and agriculture system and as such is one in which the development of new educational programs is most appropriate. Our colleges and universities are certainly moving in this direction, and it is entirely appropriate that secondary programs also give increased emphasis to providing students with educational experiences which will enable them to be skilled and effective workers in the area of aquaculture. While specific programs to enrich secondary agricultural education fall under the domain of the U.S. Department of Education, the U.S. Department of Agriculture and particularly the Cooperative State Research Service have substantial expertise in the area of aquaculture research, education, and technology transfer. Model programs could be developed and pilot tested around the country which would provide results that could then be used as a frame of reference by other schools.

## NEW USES

Question: Secretary Yeutter has expressed his support for research on the development of new uses for farm and forest products, and I am aware of some of the activities of the Department in this regard. Can you provide me with an overview of your activities in this area within the State Experiment Stations?

Answer: The Department of Agriculture supports new uses for farm and forest products through research and development programs and through demonstration projects. Research and development programs are conducted in-house by the Agricultural Research Service and, with additional support from the Cooperative State Research Service, at State Agricultural Experiment Stations. These programs concentrate on many agricultural needs, including agronomics, breeding, genetics, economics, engineering and utilization.

Question: Dr. Bentley, over the past couple of years we have heard a lot about the development of kenaf (ke naf'), including some interest from my state of Mississippi. Can you briefly update us on this project?

Answer: The current USDA effort to commercialize kenaf for pulp, paper, and fiber products is the Kenaf Demonstration Project. The Project, begun in early 1986, is led by CSRS with major support and technical assistance provided by ARS, and direct cooperative work with several private companies. The Kenaf Demonstration Project has proven kenaf newsprint is a viable commodity, designed and tested a prototype harvest system, and initiated fiber product development with industry, universities, and other public institutions. In response to renewed commercial interest in kenaf, agricultural research programs were started at ARS field stations in Weslaco, Texas and Lane, Oklahoma in 1988, and at Mississippi State University in 1989.

To date, the USDA kenaf program has helped to stimulate private plans for a $400 million kenaf newsprint mill in south Texas and plans to use kenaf as a supplemental fiber at a newsprint mill in north central Mississippi.

COMPETITIVE vs. SPECIAL RESEARCH GRANTS

Question: I am pleased to see that the land-grant colleges and state universities are actively involved in carrying out USDA-sponsored research programs directed at improving the competitiveness of U.S. agriculture, forestry and aquaculture. However, I am concerned that the "competitive grant" program is concentrating the research in a handful of universities.

| | 1989 | 1990 | Difference |
|---|---|---|---|
| -- Competitive grants. . . . . . | 39.7 mil | 63.5 | +23.8 |
| -- Special grants. . . . . . . . | 41.9 | 15.1 | -26.8 |

While I believe in competition, I am afraid that some of the universities that do not receive competitive grant funds will not be able to conduct research on localized problems. If this is true, what can be done to spread the funds to the schools that are unable to compete for the funds?

Answer: The distribution of competitive grants is broader than is sometimes recognized. Since its inception in 1978, the Competitive Research Grants --CRG-- program has made awards to investigators at institutions located in all states except Alaska. For the States represented on this Subcommittee, the numbers of awards are as follows: Arkansas - 16, Georgia - 64, Iowa - 9, Nebraska - 50, North Dakota - 15, Mississippi - 14, Pennsylvania - 70, Washington - 103, and Wisconsin - 159. In addition, the impact of CRG awards has been felt nation-wide through dissemination of research results which are applicable to a wide range of commodities grown in various regions of the nation. An equally significant contribution of this program is the large number of scientists trained under the CRG grantees who now form nuclei of well-trained agricultural researchers at all land-grant institutions.

We are very much concerned about all states becoming scientifically competitive. There are several factors involved in the institution's success in competing for grants. One important reason we have discovered is that many very capable scientists are not submitting research grant proposals. In order to overcome this we have initiated a program to send a team from CSRS to universities that have a record of low participation. The purpose is to explain about the Competitive Research Grants program, to give workshops on how grants are selected, and to encourage individual scientists to participate. We then ask the university to send us names and biographical material on their best scientists in the appropriate biological disciplines so that we can involve them in the CRG peer review process as reviewers. This, hopefully, encourages them to write research proposals and compete for these grants in the future. Applying for a competitive grant requires an enormous commitment on the part of a scientist in terms of time and energy. Investigators need to have a good reason to apply for competitive research grants funds. It is our observation that when investigators have sufficient funds to carry out their research program from other sources such as special grants, formula funds or a commodity group and they are not encouraged to pursue additional research goals of their own, they are not interested in applying for competitive research grants. It does not mean that they are not competitive; it simply means they have no need for them. Another factor that will contribute to the increased competitiveness of investigators in a competitive grants program is a commitment of the institution or state to that goal. When an institution is supportive of the effort of an investigator to apply for a competitive grant, he/she has a head start in the competitive process.

## CSRS BUDGET

Question: Do you feel the proposed budget represents a good mix or do you count on Congress to restore the special grants?

Answer: The Department, as well as the State Agricultural Experiment Station system, feels the CSRS fiscal year 1990 budget addresses the most high priority issues facing agricultural research and education. The Competitive Research Grants program is considered a high priority and we are requesting an increase of $23.8 million. This important program supports advances in the fundamental agricultural sciences which are crucial to the continued ability of our research system to respond to emerging producer needs. CSRS is requesting $6.7 million as part of a coordinated Federal water quality initiative. Additional funding is being requested to strengthen higher education programs in the food and agricultural sciences.

## GLOBAL WARMING

Question: A lot of interest has been expressed in global warming. Given its potential impact on American agriculture, to what extent is USDA involved in the global warming program?

Answer: CSRS funds are supporting an estimated $61 million of research related to global change in fiscal year 1989. It is significant to note that approximately $250 million of non-Federal funds were spent on Global Change research in fiscal year 1987. During that year, there was a ratio of about 4.5 non-Federal dollars for every CSRS Federal dollar, a very effective leveraging of funds in contributing research.

The Competitive Research Grants program is supporting research on the potential damages of stratospheric ozone depletion to crop production. Other CSRS contributing research on global change involves studies on acid precipitation, climate, energy, pollution, and soil and water irrigation and drainage. Research on the effects of global change on crop and animal production is also being conducted.

The Department of Agriculture is in the process of developing a plan for Global Change Research which will specify the proposed areas of focused research to be carried out by both the agencies within USDA and the State Agricultural Experiment Stations.

Question: I understand that some research has indicated that doubling of carbon dioxide, $CO_2$, in the atmosphere has improved cotton yields by 80%, rice by 36%, and soybeans by 32%. This would be welcomed in Mississippi. What does research tell us about agriculture and the so-called greenhouse effect? Is there a relationship between greenhouse and global warming?

Answer: While the greenhouse effect has been theorized for over 100 years there is still a lack of agreement in the scientific community about the magnitude and timing of global warming.

What is well established is an increase in $CO_2$ in the atmosphere. It is estimated that $CO_2$ levels in the atmosphere have increased by 25 percent over the last 100 years. Many scientists believe there has been a global air temperature increase of 1/2 to 1 degree Fahrenheit over this same period. However, we have only been monitoring $CO_2$ since the 1950's and the global air temperature estimates are still uncertain.

Crop plant yield responses to $CO_2$ content in the air around the plants in experimental conditions have been studied. Plants take in $CO_2$ through tiny openings in their leaves known as stomata, the carbon is used by the plant to make sugar compounds and the oxygen is returned to the atmosphere. This is photosynthesis and it is energized by sunlight. With an elevated level of $CO_2$ in the air around the plants, the cells absorb more carbon and photosynthesize more rapidly. Under these conditions the plants produce more sugar than normal and the yield is thus increased. This phenomenon has been known for many years and has been referred to as "$CO_2$ fertilization," because the response from plants in glasshouse production was similar to that of adding fertilizers.

## URBAN PEST CONTROL RESEARCH

Question: Urban pest control protects the health and property of millions of Americans on a daily basis. I have been told that only a small amount of funding is available for research on pests, such as cockroaches, fleas, termites, rodents, etc., although the problems caused by these pests have increased steadily over the past several years. Is this a concern of USDA? To what extent is the Department involved in urban pest research and control?

Answer: The Cooperative State Research Service and the State Agricultural Experiment Station System are concerned about urban pest control and are taking steps to increase research on Urban Pest Management under the National Integrated Pest Management Program. Urban Pest Management involves people, a diversity of environments and a complex of pests. It includes pests in the yard, home, work place, and industry, as well as in parks and recreational areas. The problems occur from the farmhouse to suburbia to the factory and hospital. Most people are unwilling to live, work or eat in buildings contaminated with pests such as fleas, roaches, disease-causing fungi and bacteria, birds, and rodents. The intensity of pesticide use in urban environs, amount applied per unit area, is greater than in most agricultural situations.

Objectives of the Urban Pest Management thrust of the Cooperative State Research Service and the State Agricultural Experiment Stations relate to: pest biology; population assessment; population regulation factors; site specific suppression tactics with emphasis on biological, genetic, and cultural management techniques; management of pesticide resistance, health and environmental hazards.

New activities have been initiated in fiscal year 1989. Two national/regional projects in urban pest management entitled Integrated Management of Cockroaches in Structural and Industrial Environments and Integrated Turfgrass Management have been funded under Hatch Act regional research funds. Six urban pest management projects were funded in fiscal year 1989 with special research grant funds under the National Integrated Pest Management Program. These research projects will be conducted at the State Agricultural Experiment Stations in New Jersey, New York, Texas, Georgia and Virginia.

---

## QUESTION SUBMITTED BY SENATOR MCCLURE

### REDUCTION IN CSRS FUNDING TO IDAHO

Question: What is the justification for the reduction in CSRS Hatch Act, Cooperative Forestry, Animal Health and Disease, and Higher Education funds to the State of Idaho? Are other States being cut as much? More? About the same?

Answer: In fiscal year 1989, the University of Idaho is entitled to $1,242,525 in Hatch Act formula funds and $526,665 in Hatch Act regional research funds. The total Hatch Act funding level remains at $155,545,000 in the fiscal year 1990 budget request, the same as in fiscal year 1989. As required in the Hatch Act, the Committee of Nine determines the Hatch Act regional research distribution among the States and they have not yet determined the fiscal year 1990 distribution. The information in the CSRS Explanatory Notes on the fiscal year 1990 distribution of Hatch Act funds only showed what the University of Idaho will receive under the formula portion of the Hatch Act. CSRS anticipates that after the regional research distribution has been determined, the Idaho Hatch Act funds will be about the same as in fiscal year 1989.

The reduction in the McIntire-Stennis program and the elimination of the Animal Health and Disease program will affect all States the same. The State Agricultural Experiment Stations and Forestry Schools have maximum flexibility under this program to tailor research according to specific needs and can continue to fund research in those areas that they identify as highest priority. Forestry research will also be carried out under the Forestry Competitive Grants program in 1990. The proposed increase in this program more than offsets the decrease in McIntire-Stennis. Research formerly conducted under the Animal Health and Disease formula research program will be continued under the expanded animal science Competitive Research Grants program, which will better target funds to projects of highest scientific merit and most closely tied to national priorities.

The proposed elimination of the Morrill-Nelson funds will cause all States to lose their $50,000 allocation for higher education. Funds provided under the Graduate Training Grants program and the new Institutions Challenge Grants and 1890 Institutions Capacity Building Grants programs will be awarded on a competitive basis. It is not yet known what institutions will receive these funds.

## QUESTIONS SUBMITTED BY SENATOR KASTEN

### ANIMAL HEALTH AND DISEASE

Question: Does the increase in the Competitive Research Grants program compensate dollar for dollar for the elimination of Section 1433 (Animal Health and Disease research funding)?

Answer: Research formerly conducted under the Animal Health and Disease, Section 1433 formula research program, as well as the Animal Health Special Research Grants program, will be continued under an expanded Animal Science Competitive Research Grants program. CSRS is requesting an $8 million increase in Competitive Research Grants, however, the decrease in the Section 1433 and Special Research Grants programs amounts to $11.2 million. Intensified and expanded research is needed to find solutions to the most serious animal health problems that limit the efficient production of animal products. The Competitive Research Grants program will better target funds to projects of highest scientific merit and most closely tied to national priorities. A consolidated animal health program will provide a focus for innovative approaches to solving fundamental problems in animal health and disease in food and fiber animals.

### WATER QUALITY INITIATIVE

Question: How much money of the Water Quality Initiative will actually go to the States to support their activities?

Answer: Of the $6.7 million CSRS is requesting for the Water Quality Initiative in fiscal year 1990, $6,351,600 will be awarded in grants to the States. The $348,400 not awarded to the States will be used for CSRS Federal administration expenses and for the Small Business Innovation Research program.

## QUESTIONS SUBMITTED BY SENATOR SPECTER

### STRATOSPHERIC OZONE

Question: Dr. Jordan, the growing concern in recent years regarding depletion of the stratospheric ozone has led to many increased efforts to study the impact of and methods to reduce depletion of the stratospheric ozone. I commend the Department for recognizing the importance of this issue and your efforts to expand research in the area of UV radiation and its impact on food and fiber production.

Specifically, in what areas are you now focusing your research? In addition, with the increased funding requested for Fiscal Year 1990, do you expect to expand research currently being conducted or do you plan to expand into other areas regarding stratospheric ozone depletion?

Answer: The deadline for receipt of proposals for the stratospheric ozone depletion and crop productivity program under the Competitive Research Grants program is April 10, 1989. We have not yet awarded any grants under this program. Specifically, we will be supporting research projects that are designed to understand how plants respond to UV-B radiation so that we will be able to identify specific biological targets of expected increase in UV radiation. This kind of basic information is needed to monitor possible crop damages due to UV radiation and to predict potential effects due to expected increase in UV radiation.

With the increased funding requested for FY 1990, we plan to continue the same focus as FY 1989 on the basic mechanisms of interactions at the cellular and molecular levels between UV radiation and higher plants. In addition, we plan to expand the program to include research on interactions between crop plants and the environment in the context of anticipated global climate changes. As part of the FY 1989 activity of the stratospheric ozone depletion and crop productivity program, we held a workshop on plant responses to UV-B in Florida earlier in the year. It was clear from that workshop that the stratospheric ozone depletion is only a part of the global changes that would affect agriculture in a profound way, and it does not appear scientifically sound to limit research to UV radiation as an isolated event. In the expanded program, research proposals will be solicited to study plant responses to UV-B as well as to all environmental stimuli including light, temperature, water, ozone and other greenhouse gases. How the changing environment would affect the plant interactions with insects and microorganisms will also be studied.

### LOW-INPUT AGRICULTURE

Question: Dr. Jordan, the growing need for environmental protection has resulted in increased awareness of "low-input" or alternative agriculture practices. In 1985, Congress passed the Food Security Act, which included the necessary authorization for Agriculture Productivity research. Congress later appropriated $3.9 million for research on low-input farming systems for Fiscal Year 1988 and $4.45 million in Fiscal Year 1989. The result of this spending has produced low-input technologies to reduce the farmer's dependence on large amounts of purchased inputs in ways that increase profits, reduce environmental hazards and ensure a more sustainable agriculture for generations to come.

I understand that, in addition to the CSRS research grants, there are many other non-designated funds directed to low-input research. For Fiscal Year 1989, what other accounts did USDA focus on low-input agriculture and for what specific projects were they allocated? In addition, since the Department's Fiscal Year 1990 budget contains a complete elimination of the CSRS Special Research Grants for low-input research, what amount of non-designated funds will the Department provide and for what projects? What is the Department's justification for eliminating this important program?

Answer: In 1983, the Cooperative State Research Service, in cooperation with Iowa State University, conducted an assessment of Conventional and Organic-Related Farming Systems Research being undertaken at State Agricultural Experiment Stations. The results of this assessment indicated that $68.0 million of CSRS funds is neutral to organic or conventional farming systems of which $3.5 million has direct relevance to organic-related farming systems. For FY 1989, an additional $4.45 million was appropriated to CSRS for low-input sustainable agriculture under Title XIV, Subtitle C of the Food Security Act of 1985. The research involves both field crops and animal production and includes such areas as breeding, soil fertility, tillage, pest control, cropping systems, and animal management. For the Department's proposed 1990 budget, the estimated CSRS expenditures are $63.0 million.

What has come to be called low-input sustainable agriculture may incorporate potentially profitable and environmentally beneficial characteristics of existing approaches along the continuum from organic farming to reduced reliance on use of purchased off-farm inputs, such as chemical fertilizers and pesticides. To refine our data on the base program in this area as it is evolving, we have undertaken a special study to more usefully identify the extent to which research and education are addressing the need for reliable facts and information on low-input sustainable agriculture. Preliminary results of this new inquiry are expected by June.

The special funding for low-input, sustainable agriculture in fiscal year 1988 and fiscal year 1989 is resulting in a number of new projects. These projects are stimulating additional efforts on the part of universities and other established institutions to orient their broader programs of research and education to the needs and concerns of low-input sustainable agriculture. This new focus is expected to continue.

## PESTICIDE IMPACT ASSESSMENT

Question: Dr. Jordan, Special Research Grants have provided funding to address issues that develop scientifically sound decisions on pesticide regulatory issues. To reduce environmental pollution and risk to the farmworker, funding for pesticide impact assessment research grants has been included in the Department's Fiscal Year 1990 budget proposal. In light of the increased concern for human exposure to and consumption of pesticides, which, if any, of the research programs will focus on these important areas?

Answer: The National Agricultural Pesticide Impact Assessment Program includes in its research priorities mechanisms to minimize environmental and health risks. Research areas will focus on application technology and the resulting residues, safe waste disposal techniques, protective measures for agricultural workers, factors governing pesticide movement into water, monitoring methodology to reduce health risks and factors to assure that pesticides are used in an effective manner. In addition to the National Agricultural Pesticide Impact Assessment Program, the IR-4 project also known as the Pesticide Clearance for Minor Use Program will determine pesticide residue levels on selected food crops. These data will lead to registrations permitting use of these chemicals at levels that do not adversely affect human health or the environment.

## QUESTIONS SUBMITTED BY SENATOR HATFIELD

### INTERNATIONAL TRADE DEVELOPMENT CENTER IN OREGON

Question: For FY 1989, the Congress appropriated $300,000 for the establishment of an international trade development center at the Wheat Marketing Center in Portland, Oregon. It is my understanding that the grant application for the $300,000 was made recently. Please provide for me the status of this grant application.

Answer: The grant application has been received by CSRS and is being reviewed by the program specialist. The grant should be awarded by the end of April.

### SMALL FRUITS RESEARCH

Question: Is CSRS currently engaged in any grant programs emphasizing research on small fruits (berries, grapes, etc.)? If so, who are the recipients of those grants, and at what locations is the research done?

Answer: Special Research Grants have been funded to conduct research on blueberry shoestring virus in Michigan and cranberry/blueberry disease breeding in New Jersey for FY 1989. Approved grants will be awarded to researchers at the Michigan State Agricultural Experiment Station --SAES-- and the New Jersey SAES, respectively.

In addition, a considerable amount of research on berries and small fruits, including grapes, is being conducted, using Hatch Act and Evans-Allen Program funds at the various SAES's. Decisions on how much of these funds is used on small fruit research is determined by the Director of each SAES.

Question: The Pacific Northwest is the center of national production and processing of various types of berries and cool-season varietal wine grapes. What percentage of small fruit research grants will be allocated to facilities located in the Pacific Northwest in FY 1989?

Answer: No funds have been appropriated specifically for the Pacific Northwest to conduct research on production and processing of various types of berries and cool-season varietal grapes in FY 1989. However, the SAES Directors in Oregon, Idaho, and Washington, have the prerogative of assigning a portion of their Hatch Act program funds to these activities.

## POTATO RESEARCH

Question: For FY 1989, the Congress appropriated $150,000 for Dark End Syndrome research. Please provide me with an update on the progress that has been made with regard to this research.

Answer: Research in this area is being conducted in a coordinated program by the State Agricultural Experiment Stations --SAES-- in Oregon, Idaho, and Washington. The program involves planting dates, fertilizer rates, water stress, temperature extremes, and harvest dates of several widely grown cultivars, including Russet Burbank and Lemhi. Research has been conducted to determine the stages of plant and tuber development which are most susceptible to stress and which may result in sugar-end development. Research to date has shown that high and/or low temperatures in the early part of the season, as well as low moisture, can result in malformed tubers with sugary ends. Antitranspirants applied to foliage have little effect on sugar-end conditions of susceptible tubers. Stressed Russet Burbank is less tolerant to sugar-end than Lemhi.

Question: When this research program is concluded, will the results of the research be distributed to potato farmers in the Pacific Northwest? If so, how will the material be distributed? If not, why not?

Answer: Information from this research program has been distributed to potato farmers in the Pacific Northwest by means of electronic media, bulletins, newspaper articles, county extension agents, extension specialists with the Cooperative Extension Service in the various states, and by the Potato Commissions in each state. As future research findings become known, they will be distributed in a similar manner.

## ALTERNATIVES TO DINOSEB

Question: For FY 1989 the Congress appropriated $150,000 for a Special Research Grant for alternatives to dinoseb. Please provide me with an update on this research. Are we any where near to finding a suitable alternative?

Answer: The grant application has been received from Oregon State University and is currently being reviewed. Our staff have been in consultation with the scientists and administration of Oregon State University regarding their proposed efforts. There are several crops, some grown primarily in the Northwest, that require considerable research over several years before suitable alternatives for dinoseb are expected to be available for registration. However, during the coming year, at least one and possibly two new pesticide products are anticipated to be registered or near registration as a result of this project's effort. In the future a number of other alternatives should be available. Pesticide residue data must be collected and analyzed from all regions of the United States to support herbicide registration for many of the crops grown in the Northwest which are also grown outside the Northwest.

## EXTENSION SERVICE

## QUESTIONS SUBMITTED BY SENATOR BURDICK

### 1890 COLLEGES AND TUSKEGEE UNIVERSITY

Question: The budget provides new emphasis on the role of our 1890 Colleges and Tuskegee University by increasing the 1990 budget by over $5,000,000 for Extension Service. What type of curriculum development plans will be initiated with these funds?

Answer: Curriculum development would be funded through the proposed Capacity Building Grants Program in the Cooperative State Research Service. The Extension funds are to strengthen the capacity of these institutions to continue emphasis on delivering Extension educational focused on the needs of small-scale, limited resource. We expect institutions to direct these increased funds to addressing the National Initiatives; improving nutrition, diet and health; family and economic well-being and rural revitalization, with emphasis on home-based businesses.

Question: Will any equipment or facilities be upgraded with 1990 funds for Extension. Are improvement to these institutions needed, and how would they be accomplished?

Answer: The 1990 budget includes $9.5 million for facilities construction and upgrade for the 1890 Institutions and Tuskegee University. This is the third year of a five year program begun in 1988. The importance of facilities and modern equipment in higher education cannot be minimized. These land-grant colleges and universities are in critical need of upgrading the Extension facilities and equipment so that they may carry out their unique mission more effectively. These improvements are being accomplished through expansion of programs, renovation and construction of existing and new facilities and capitalizing on new and emerging equipment and technology for program development and delivery.

### PEST MANAGEMENT

Question: Dr. Johnsrud, how has your policy on pest management changed such that the 1990 budget now includes $7,000,000 for Pest Management?

Answer: Our general position on pest management has not changed. We continue to believe that Extension Intregrated Pest Management (IPM) programs are extremely important in facilitating and fine-tuning the adoption of improved pest control programs in agriculture and other venues. The reports we receive from IPM programs continue to demonstrate superior achievement in addressing economic and environmental concerns. We believe that IPM programs form an important basis for addressing a number of critical issues. These include, but are not limited to agricultural competitiveness and profitability, water quality, food safety, development of sustainable agricultural systems, and protection of endangered species. The only change in our policy is to require a match of State Funds against the Federal Appropriation.

Question: How will the $947,000 recommended increase for the Pesticide Impact Assessment Program be used?

Answer: We have requested an increase of $947,000 in the Pesticide Impact Assessment Program to carry out the intensified pesticide reviews started in FY 87. Through this program, important data on benefits are collected and provided to EPA for consideration in regulatory actions. These funds are to be used to cover the increased costs associated with an increase in reviews from 2 to 3 per year to 10 to 12.

## RREA

Question: For several years, the budget has eliminated funds for forest and range conservation under the Renewable Resource Extension Act. Were these funds eliminated, what other specific sources of non-earmarked funds would be available to support these efforts?

Answer: At the present time, States are investing approximately three of their own dollars for every federal dollar invested. While there would be no specific Federal dollars for RREA, we anticipate that the States will continue this effort within existing resources.

Question: Would there be sufficient funds for all 50 States to continue these efforts under Extension's Priority Initiatives?

Answer: The budget request to support Extension's Priority Initiatives is not designed to provide support for RREA programs. Although some of the programs planned in the Priority Initiatives complement RREA programs they are not, if continued, intended to replace RREA programs.

## ATTRA

Question: In recent years, ATTRA has provided technology transfer services on low-input sustainable agriculture and resources management for farmers. Prior to its recent relocation from Agricenter International in Tennessee to Fayetteville, Arkansas, Extension complained that administrative costs of ATTRA were excessive. Does Extension plan to provide the funds appropriated for ATTRA throughout this fiscal year?

Answer: In FY 1989, the Extension Service is providing the appropriated funds for ATTRA in concert with the intent of Congress.

Question: Are you aware whether overhead and administrative expenses for ATTRA will be favorably or adversely affected by it location in Arkansas compared to expenses paid when ATTRA was located in Tennessee?

Answer: We have been advised that rent for operational space for ATTRA will be less in Arkansas. However, we are unaware of any potential changes in overhead and administrative expenses incurred by NCAT at its Butte, MT, and Washington, DC, operations.

Question: With increased emphasis on issues relating to the contamination of our groundwater and soil, do you believe that the demand for ATTRA's services will increase in the months ahead?

Answer: Increased public interest and concern relative to groundwater and soil contamination will generate an increased call for answers that can only be developed through a holistic approach that provides research-based information feeding educational programs. Such a system will allow services such as ATTRA to respond appropriately to the critical needs in this area.

We are observing a trend of increased requests for information, education, and assistance in dealing with these issues. These requests reach all levels (county, State, national) of the Cooperative Extension System. We anticipate a similar trend of requests wil' be addressed to ATTRA.

Question: How is the Extension Service cooperating with ATTRA to help farmers and rural communities with current information and demonstration data in sustainable agricultural practices?

Answer: During the first year of operation the ATTRA program responded to a very broad and diverse array of questions. NCAT and ES/USDA agreed that the scope was too broad to optimize ATTRA's potential contribution to competitiveness and sustainability of American agriculture. Therefore NCAT and ES/USDA are cooperating on narrowing the focus of ATTRA to address the information needs in concert with Title XIV Subtitle C "Agriculture Productivity Research" of the 1985 Food Security Act.

In carrying out this focus, NCAT will manage the ATTRA program to provide information and technology while satisfying the intent of Congress as it funded ATTRA. ES/USDA will coordinate with NCAT in focusing the ATTRA program and facilitating program implementation while ensuring efficacious use of funds appropriated for ATTRA.

NCAT and ES/USDA are also cooperating to further increase operational efficiency and productivity of the ATTRA program by jointly: 1) monitoring quality, objectivity, and timeliness of ATTRA responses to information requests; 2) identifying voids in low input sustainable agriculture information and communicating these research and technology needs through appropriate channels and 3) developing structures through which other interest groups can voice concerns/needs regarding the ATTRA program.

## FEDERAL ADMINISTRATION

Question: What is the purpose of the $9,000 increased operating costs?

Answer: The increase would be used for general support of the federal administrative operations.

Question: Will there be any requirements for increased funding to provide salary, remuneration, or retirement benefits to state extension employees? If so, in what amount?

Answer: The proposed level for the Smith-Lever 3 b&c funds in FY 1990 included $4 million for the retirement benefits of state extension employees, as well as, over $15 million for other retirement costs incurred by the States. The majority of the Smith-Lever formula funds are used by the States to address the federal share of salary commitments to Extension personnel nation wide.

---

## QUESTIONS SUBMITTED BY SENATOR COCHRAN

### AQUACULTURE

Question: The Economic Research Service of USDA issued a report last October which states that aquaculture is the fastest growing agricultural industry in the United States, increasing over 20 percent annually in the decade. Are you familiar with the report? What is USDA doing to assist this rapidly growing industry?

Answer: Yes, we are aware of the report and the importance of aquaculture as a major agricultural opportunity. The Department of Agriculture has a member of programs to assist the aquaculture industry. The Department is also responsible for the coordination of all Federal programs in aquaculture through the Joint Subcommittee on Aquaculture.

Within Science and Education, there are a number of programs addressing the needs of the aquaculture industry. The Extension Service supports educational programs in aquaculture through the Cooperative Extension System. The Cooperative State Research Service supports research in aquaculture through the Special Research Grant Program, direct Federal Administration, and through the allocation of formula funds to States. The Cooperative State Research Service, in cooperation with the Extension Service, also administers The Regional Aquaculture Center Program for the performance of regional research and extension activities. The Agricultural Research Service conducts research at five research laboratories to support the aquaculture industry. The National Agricultural Library provides informational services to the industry through the Aquaculture Information Center.

Agencies outside of Science and Education also have programs aimed at assisting the industry. The Agricultural Marketing Service provides assistance to the aquaculture industry through the Federal-State Marketing Improvement Program and the Market Research and Development Division. The Foreign Agricultural Service works to assist the industry in developing overseas markets for aquaculture products. The National Agricultural Statistics Service prepares and publishes reports on aquaculture production. The Soil Conservation provides detailed assistance for the planning and installation of aquaculture facilities. Additionally, several other agencies within USDA have programs to support this industry including The Animal Plant Health Inspection Service, Farmers Home Administration, and the Economic Research Service.

## AQUACULTURE EDUCATION

Question: I have been approached by the Future Farmers of America (FFA) Alumni Association regarding the need for aquaculture education and training programs for secondary students and adults in our communities. Do you share this viewpoint, and if so how would a program of this type be administered?

Answer: The Extension Service has recognized the need for educational programs in aquaculture for youth and adults and has been involved in these programs for several years now. These programs are implemented through the Cooperative Extension Service in each State through an integrated partnership with Federal, State, and county levels of government. Many States, including Mississippi, have developed strong Extension educational programs in aquaculture targeted at a wide audience. A variety of programs are provided; such as, workshops for new fish farmers, short courses in management and fish days, in service training programs, 4-H youth programs, and the distribution of educational materials to assist the development of the industry. Additionally, Extension educational programs are also being developed on a regional basis through the Regional Aquaculture Center Program.

As the aquaculture industry has expanded rapidly over the last several years, Extension educational programs in this area have also expanded and will continue to expand. The Extension Service does endorse the concept of formal secondary educational programs in aquaculture.

## RURAL DEVELOPMENT

Question: Dr. Johnsrud, we are aware of the Extension Service's long history of working in the area of rural development. As we celebrate the 75th anniversary of the Cooperative Extension Service, perhaps this is a good time to ask you about Extension's future role in rural development. What role do you see Extension taking in the revitalization of rural America in the coming years?

Answer: The six point Rural Regeneration Initiative of the U.S. Department of Agriculture calls upon the Extension Service to place additional program priority on rural revitalization education. The national Extension initiative, Revitalizing Rural America (RRA), is the mechanism we are using to focus Extension resources on this initiative.

This ES/USDA, RRA technical assistance enterprise is endorsed by the Extension Committee on Organization and Policy, and is being implemented by the national Extension System, our land-grant partners. Even though there are many competing demands for the limited Extension funds, the reallocation of existing resources is evidence of the System's commitment to revitalizing rural America. As more resources are made available I expect the Extension System to be even more supportive of the type of rural economic development that is needed beyond the farm gate. Economic development, rural jobs and income are vital to farm families as well as non-farm rural residents.

Cooperation and collaboration with other rural serving institutions and local organizations is integral to the Extension System RRA initiative. ES/USDA:

- Has established a collaborative agreement with the National Rural Electric Cooperative Association to support three Cooperative Extension cooperatives on the formation of rural, industrial incubators.

- With help from the Regional Rural Development Centers the Extension System is working with the Forest Service/USDA for state utilization of their computerized, economic impact model, IMPLAN.

- Negotiated a cooperative agreement between the Soil Conservation Service, RC&D program and two 1890 Extension institutions to design economic development programs for minority audiences.

- Developed a Memorandum of Agreement with the Small Business Administration as the basis for joint rural, small business programming. Discussions are being held on the international competitiveness programs for rural areas.

We are asking our land-grant partners to develop similar collaborative arrangements by offering Extension RRA technical assistance from the total university system in conjunction with community colleges, economic development districts to state and local governments and community leaders. Our goal is not to compete, but to offer a partnership based on our unique land-grant mission as a provider of technical assistance.

An example to this cooperative spirit, at the national level, is the Rural Information Center (RIC). We are very proud of the recent formation of the RIC, a project jointly supported by both the Extension Service and the National Agricultural Library. This computer assisted information and referral system, another component of the Department's Rural Regeneration Initiative, provides quick reference technical information to any rural official anywhere in rural America -- now, information for decision-making is just a phone call away, no matter how isolated a rural area.

---

## QUESTIONS SUBMITTED BY SENATOR MCCLURE

### EXTENSION REDUCTIONS

Question: Why are Smith-Lever 3 b&c funds being reduced from $1.87 million to 0 in FY 1990?

Answer: The Smith-Lever formula funds are not proposed for reduction. Current funding levels are being requested again in FY 1990.

Question: How will this effect Idaho Extension programs?

Answer: Actual effect of level funding on State Extension programs will be in terms of lesser staff, travel and program assistance due to inflation.

Question: Is the $177,000 reduction in Idaho Food and Nutrition Education programs due to the overall reduction in EFNEP?

Answer: Yes, it is.

Question: Are all states cut the same amount?

Answer: No. The current and proposed allocations of EFNEP funds to the States are based on a legislated formula.

Question: Where will State Extension programs receive funds to replace these funds?

Answer: The proposed matching contribution from States assumes resources from within the States, counties, local authorities or the private sector.

## PEST MANAGEMENT

Question: Pest Management funds to Idaho have been reduced by $80,000 for FY-90. With ever more emphasis on reducing pesticides in agriculture and more emphasis on biological control and integrated pest management, how can Extension expect to educate farmers, ranchers, and rural residents on alternatives to pesticides if Extension has reduced funds?

Answer: The budget we have submitted does not reduce the allocation of pest management funds to Idaho. The Smith-Lever 3(d) item for $7,164,000 includes $80,000 to be provided to Idaho.

## FARM SAFETY

Question: The need for farm safety continues to exist. More farm children die of accidents than non-farm children. Agriculture is a very dangerous job. Why are funds for farm safety being reduced when Extension Service needs to reach out more to educate farm families on farm safety?

Answer: The proposed elimination of the federal portion of farm safety funds does not mean that this program would cease to exist. The farm safety earmarked funds are a small portion of the total resources throughout the Extension system that are dedicated to this program. The funds have allowed States to create ongoing efforts to address farm safety concerns and we anticipate that these efforts will be continued within the States with existing resources.

## RREA

Question: The Renewable Resources Extension program in Idaho is slated for a $47,000 reduction in funds for FY90. Please explain exactly how these funds are spent and justify the cuts made. Is Idaho cut any more that other States? Any less? About the same?

Answer: These investments have been used to strengthen and expand Extension natural resources programs in each of the 50 States. Depending upon the priorities and opportunities in each of the States, programs have focused on forestland management, rangeland management and public policy. The primary audiences are the owners, managers and users of forest, range and related natural resources. The specific objectives of these programs have been to increase landowner investments in cost effective natural resource base, as well as increasing profitability; improve income, profits and other benefits to landowners that also have a direct or indirect effect on local economies and increase the contribution of natural resources products.

The allocation of funds is based on a mandated formula. Reductions by State range from $89,000 to $39,000. We anticipate that States will continue these programs at some level, with existing resources.

---

## QUESTIONS SUBMITTED BY SENATOR GRASSLEY

### RURAL DEVELOPMENT

Question: Dr. Johnsrud, could you go into greater detail about the Extension Service's rural development programs?

Answer: Approximately 6% of the total resources of the Extension System go into rural development. Some state Cooperative Extension Services makes a significantly greater commitment. Your own state of Iowa is one of the states that makes a larger commitment to rural development.

One of nine Extension Service national priority initiatives is Revitalizing Rural America (RRA). This initiative is the first, of a six point USDA Rural Regeneration Initiative -- "The Extension Service is to place additional priority emphasis on rural revitalization education ... working with local officials, community leaders, universities, and colleges to develop education and training programs suited to community needs."

A national Extension System Task Force identified their educational goals in this area. These educate rural residents concerning economic potential of alternative enterprises; new opportunities; and value added activities. Provide management and marketing education for economic competitiveness and profitability in domestic and international markets; train for decision-making and community leadership to increase capacity for service delivery and expand entrepreneurial activities.

Currently an Extension Service, National Implementation Team is directing a RRA effort on global markets, that includes emphasis on technical assistance for diversified rural economies and more competitive rural enterprises, the capacity to manage economic and structural change, and provide viable rural governmental structures. The RRA program is a multi-disciplinary effort focused on the non-farm economic development essential to rural residents. It is a program that fosters the creation of jobs/income/revenues balanced against sound policies affecting the environment and the quality of life.

A sample of RRA programs include:

- Iowa's community economic development program resulted in the creation or retention of 630 enterprises.
- Vermont's small business and economic development program resulted in 111 new jobs with 104 counseling clients.
- West Virginia's rural economic development program resulted in 2,500 families increasing their incomes by $2,500 each.
- Arkansas' rural industrial development program resulted in creation of 1,300 jobs worth $10.5 million, 47 new industries worth $9.1 million, and 89 assisted or expanded businesses worth $56 million.
- Arizona's community economic development program resulted in an 18.5% increase in retail sales in one community, despite declining employment.
- Kentucky's manpower and careers program resulted in 63 expanded businesses, the creation of 654 new industries, the revitalization of 54 downtown areas, and the creation of 1,743 jobs.

Question: Do you feel these programs, combined with other rural development efforts with the USDA, adequately address the needs of our rural communities?

Answer: As you can understand, the challenge is tremendous. Only by pooling their resources and working together can the Extension Service, other USDA programs, state agencies, and rural serving institutions and organizations effectively meet the complex and diverse needs of rural America. The unique Extension educational mission of the land-grant system, providing a window to the total university, is a technical assistance delivery mechanism essential to the support of all rural serving resources.

Some state Extension programs have been able to redirect some resources to step up rural development programming. There is opportunity for expansion for the Extension System rural revitalization effort through the Priority Initiatives line item in the President's 1990 budget.

## SUBCOMMITTEE RECESS

Senator BURDICK. This concludes the meeting. The next meeting is Thursday, March 16, and we will review the budgets for the Food and Nutrition Service and the Human Nutrition Information Service. The subcommittee stands in recess.

[Whereupon, at 12:30 p.m., Tuesday, March 14, the subcommittee was recessed, to reconvene at 10 a.m., Thursday, March 16.]

# AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1990

---

THURSDAY, MARCH 16, 1989

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
*Washington, DC.*

The subcommittee met at 10 a.m., in room SD-124, Dirksen Senate Office Building, Hon. Quentin Burdick (chairman) presiding.

Present: Senators Burdick, Kerrey, and Cochran.

## DEPARTMENT OF AGRICULTURE

### STATEMENT OF JOHN BODE, ASSISTANT SECRETARY FOR FOOD AND CONSUMER SERVICES

ACCOMPANIED BY:

- ROBERT E. SHERMAN, BUDGET OFFICER
- GEORGE BRALEY, DEPUTY ADMINISTRATOR FOR SPECIAL NUTRITION PROGRAMS

## FOOD AND NUTRITION SERVICE

### STATEMENT OF SCOTT DUNN, ACTING ADMINISTRATOR

ACCOMPANIED BY THOMAS O'CONNOR, ACTING DEPUTY ADMINISTRATOR FOR THE FOOD STAMP PROGRAM

## HUMAN NUTRITION INFORMATION SERVICE

### STATEMENT OF JAMES T. HEIMBACH, ACTING ADMINISTRATOR

### INTRODUCTION OF WITNESSES

Senator BURDICK. Good morning, ladies and gentlemen.

This morning the subcommittee would like to welcome the Food and Nutrition Service and the Human Nutrition Information Service to our third hearing on the 1990 budget for the Department of Agriculture.

Representatives of the Department of Agriculture testifying before the committee today include John Bode, Assistant Secretary for Food and Consumer Services; Scott Dunn, Acting Administrator, Food and Nutrition Service; James Heimbach, Acting Administrator, Human Nutrition Information Service; and Robert Sherman, Budget Officer at USDA.

92-941 O - 89 - 8

With the proposed 1990 budget of over $21 billion, nutrition programs are a key component of the ongoing activities of the Department of Agriculture. Whether managing the distribution of commodities, food packages, hot meals or grocery coupons, the mission of the Food and Nutrition Service is monumental.

In order to provide food assistance for the high dietary standards for the needy of all ages, FNS must draw on the expertise of the Human Nutrition Information Service, Agricultural Research Service, and other USDA agencies. We are all interested in hearing about President Bush's recommendations for nutrition programs.

Mr. Bode, it is good to have you before the committee again, and we will ask that you present your testimony, and we will then proceed to the questions from members of the subcommittee.

## STATEMENT OF JOHN BODE

Mr. **Bode**. Thank you, Senator. It is a pleasure to be here once again, I think one last time, since I am planning to leave my position in about a month.

With your permission I will summarize my statement. I would like to, first of all, introduce Dr. James Heimbach, whom you referred to as Acting Administration of the Human Nutrition Information Service in your good opening remarks, and Bob Sherman, with the Budget Office, of course, at USDA. Mr. Dunn and others from the Food and Nutrition Service are en route. They were delayed in getting here. They will be here shortly.

Biographical information on Mr. Dunn and Dr. Heimbach will be provided for the committee because I believe it is the first time they have appeared before you.

As society focuses more on the relationship between what we eat and our well being, the work of the Human Nutrition Information Service in particular comes into sharper focus.

As you will recall, Senator, the nutrition monitoring bill was passed by Congress last year, though vetoed by President Reagan.

There is a keen interest in monitoring, and the Human Nutrition Information Service is at the heart of that effort.

We have requested funds that are essential for continuing data collection activities and the analysis of that data, and I am very hopeful that that appropriation request will be met. It has presented some difficulty for the Agency in meeting monitoring activities in the past because all appropriation requests could not be funded previously.

When looking at the Food and Nutrition Service activities, the budget for these programs is funded at levels substantially above their 1989 funding levels.

In keeping with the administration's emphasis on providing for those in need, benefits in the Food Stamp Program are fully funded, as are commodities for the Temporary Emergency Food Assistance Program and soup kitchens.

In keeping with the administration's emphasis on education, child nutrition programs are fully funded at current services levels. This includes full funding for school lunches and breakfasts, meals for both adults and children in the Child Care Food Program, and full funding for the Summer Food Service Program.

We are proposing increases for the supplemental feeding programs as well as proposals to enhance program efficiency. We expect significant participation increases in the WIC Program due to cost containment initiatives by the States, which of course were given an impetus by last year's appropriations act, and I know that it is a matter in which you have had very keen interest.

We are requesting funding for the nutrition program for the elderly and food distribution program on the Indian reservations which will fully meet the requirements of these programs, and we are also proposing administrative funding and staff increases in two areas.

One that I know is a matter of some significant concern to the committee is the child nutrition account. Our request includes an additional 70 staff-years and $1.2 million that will bring the Federal review project to its mature level. At this level we will be able to assist schools and States to submit correct claims for meal service and to prevent errors.

We expect to provide information to the committee this summer on the results of this year's reviews. That data will be provided just as quickly as it is available.

I am afraid that because of the way the data is coming in the report that we can provide you prior to the committee's markup will be an interim report, but we will keep the committee informed as quickly as we can as the data becomes available.

In summarizing the remainder of my remarks, we have some important initiatives, and I know this committee has a keen interest in those items. We are very pleased.

Since 1981, we have had a 23-percent reduction in error rates in the Food Stamp Program that saved over $950 million.

Electronic benefit transfer activities in food stamps have been developing well.

Major efforts are underway in welfare reform. Agency automation is also advancing.

And, of course, I have already referenced cost-containment activities in the WIC Program that are enabling States to serve more women, infants, and children with the moneys that have been appropriated by the committee.

I do appreciate this opportunity to appear before your committee once again and, of course, we would be delighted to answer any questions that you have, sir.

### PREPARED STATEMENTS

Senator BURDICK. Thank you. Your complete statement and the statements of Mr. Dunn and Dr. Heimbach will be made part of the record.

[The statements follow:]

### STATEMENT OF JOHN W. BODE

Mr. Chairman, Members of the Committee: I would like to thank you for this opportunity to appear before you to speak about the budgets for the Food and Nutrition Service and the Human Nutrition Information Service.

With me today from the Food and Nutrition Service are the Acting Administrator, Mr. Scott Dunn, who was formerly the Deputy Administrator for the Food Stamp Program, George Braley, the Deputy Administrator for Special Nutrition

Programs, Thomas O'Connor, the Acting Deputy Administrator for the Food Stamp Program and William G. Boling, the Budget Officer for the Food and Nutrition Service. With me today from the Human Nutrition Information Service is Dr. James T. Heimbach, the Acting Administrator of that Agency. Dr. Heimbach and Mr. O'Connor are making their first appearances before you today and with your permission, I will furnish their biographical information for the record.

As society focuses more and more on the relationship between what its people eat and their well-being, the work of HNIS becomes recognized as more and more important.

This budget would provide funds for HNIS to complete analysis of the data from the Nationwide Food Consumption Survey (NFCS) for which data collection was completed last August and to continue data collection for the Continuing Survey of Food Intakes by Individuals (CSFII) which will begin next month. The data collection effort for the CSFII will meet the mandate of Public Law 95-419 for a dietary assessment system which includes continuous monitoring of America's eating patterns.

A comparison of the information from the CSFII in 1985 with earlier consumption survey data indicates that certain groups of people have changed their dietary patterns during the interval between the surveys. Analyzing these changing patterns will enable HNIS to better target and tailor dietary guidance to specific groups and specific eating habits. We also provide for continuing efforts in the areas of food composition analysis and nutrition guidance and education with this budget request.

The Food and Nutrition Service provides the wherewithal in the form of funds and food to feed the nation's needy, the homeless, our children and senior citizens.

In this budget most of these programs are funded at levels substantially above their 1989 funding levels.

In keeping with the Administration's emphasis on providing for those in need, benefits in the Food Stamp Program, including aid to the homeless, are fully funded as are commodities for the Temporary Emergency Food Assistance Program and soup kitchens.

In keeping with the Administration's emphasis on education, the Child Nutrition Programs are fully funded at the current services level. This includes full funding for school lunches and breakfasts, for meals to both adults and children in the Child Care Food Program and full funding for the Summer Food Service Program.

We are proposing funding increases for the Supplemental Feeding Programs as well as proposals to enhance program efficiency. We expect participation increases in the WIC Program as cost containment initiatives are implemented by the States which were given impetus by direction contained in last year's Appropriations Act.

We are requesting funding for the Nutritional Program for the Elderly and the Food Distribution Program on Indian Reservations which will fully meet the requirements of these programs.

We are also proposing administrative funding and staff increases in two areas.

In the Child Nutrition account, our request for 70 additional staff years and $1.2 million will bring the Federal Review project to its mature level. At this level, we will be able to assist schools and States to submit correct claims for meal service and to prevent errors. We expect to provide information to the committee this summer on the results of this year's reviews.

The request for FNS' administrative funds will enable the Agency to complete the fifth year of the Information Resources Management Plan which is primarily targeted to automating the field offices. The Agency will be able to update its accounting and financial management systems to strengthen the areas criticized by the General Accounting Office. The additional staff requested are to properly carry out the Agency's responsibilities for commodity distribution, to monitor and evaluate progress and to control costs in the many welfare reform projects now underway, and to operate and maintain the new automated systems now coming on line.

In short, the funding levels requested for these programs will allow them to fulfill their critical roles in the forefront of building a better America.

The Committee has provided support for important initiatives and I would like to report on some of them.

## ERROR REDUCTION

The rate of erroneous food stamp coupon issuance by States has fallen more than 23 percent since 1981, saving almost $1 billion.

### ELECTRONIC BENEFIT TRANSFER

While Electronic Benefit Transfer issuance has not saved any money so far, new technology appears promising and four new project sites, Washington, Arizona, Minnesota and New Mexico, in addition to the on-going project in Reading, Pennsylvania, have been designated to conduct additional testing.

### WELFARE REFORM

The Department of Agriculture, working with other Departments through the Interagency Low-Income Opportunity Advisory Board, has provided States with an avenue to initiate innovative changes in welfare programs. Thus far, 13 proposals have been received which would require food stamp waivers. Four of these projects have been implemented. Reviewing, monitoring and evaluating these proposals will take additional staff.

### AGENCY AUTOMATION

With this Committee's support, FNS has been able to provide automation capability to regional and headquarter's offices. Automation will be extended to the field offices in fiscal year 1990. The Agency has improved its data handling capacity and is currently installing local area networks in the regions and field offices which along with the mini computers purchased last year will provide communications links throughout the Agency when the installations are complete.

Great progress has been made in these last 8 years, Mr. Chairman, and I would like to thank you and the members of this Committee for all the time, support and courtesies which you have extended to me during this period.

This concludes my statement. We will do our best to respond to any questions you or the Committee members may have. Thank you.

---

## STATEMENT OF SCOTT DUNN

Mr. Chairman, Members of the Committee: I want to thank you for the opportunity to testify on behalf of the fiscal year 1990 budget request for the Food and Nutrition Service. We are here to support the estimates for nine Appropriations which fund the food assistance programs of the Department of Agriculture. These include the Food Stamp Program, the School Lunch Program, the School Breakfast Program, the Commodity Supplemental Food Program and the Women, Infants and Children (WIC) Program, among others.

With me today are George Braley, Deputy Administrator for Special Nutrition and Thomas O'Connor, Acting Deputy Administrator for the Food Stamp Program. Also, we have our Budget Officer, William Boling.

This budget request for the Food and Nutrition Service is divided into two categories.

In the first category are those programs specifically addressed in President Bush's budget documents.

> The Child Nutrition Programs, including the National School Lunch and Breakfast Programs, the Child Care and Summer Feeding Programs and associated administrative expenses for which $4.9 billion is requested.
> Food stamp benefits for which $12.0 billion is requested.
> Commodities for soup kitchens and for distribution under the Temporary Emergency Food Assistance Programs for which $160 million is requested.

We are requesting in excess of $17.88 billion for these programs to protect our nation's children and needy.

The second major category is all of the remaining activities of the Agency including administrative expenses for food stamps, cash and commodity distribution to Indians and elderly, the Special Supplemental Feeding Programs and the Agency's administrative expenses. These activities are subject to negotiations.

Under current law we are requesting a total of $3.57 billion for these programs. The principal items include:

- A request of $2.02 billion for the Supplemental Feeding Programs. This level will continue to fund participation increases. The inflation-driven cost increases in the Women, Infants and Children Program will be more than offset by cost containment initiatives by the States. We expect participation to increase substantially due to these cost savings.
- A request of $20.4 million to continue the Special Milk Program under current law.

- A request of $1.2 billion for Food Stamp administrative costs, both Federal and State, under current law.
- A request of $206.5 million to continue the current programs of cash and commodity distribution to the Indians and elderly.
- A request of $96.8 million for the administrative expenses of the agency to strengthen program accountability efforts for increasingly complex programs particularly through continued automation and an accounting system overhaul.

No funding is requested for the administrative expenses of the Temporary Emergency Food Assistance Program, although the Department will continue to provide commodities from excess stocks and $120 million for purchase of commodities authorized by the Hunger Prevention Act is requested. With the volume of commodities declining, we continue to believe that administrative funding for intrastate distribution of these Federal donations is unnecessary.

We are requesting $825 million, the original amount authorized for the Nutrition Assistance Program (NAP) for Puerto Rico. Since the NAP is a mandatory block grant, funding is not driven by caseload or economic factors. The appropriate funding level may be well below the authorized level. This is not unique for NAP. For example, the Food Stamp Program authorization (excluding NAP) for 1990 is $15 billion and the amount needed and requested is $13.26 billion. Since the block grant was established in 1982, Puerto Rico has experienced significant economic gains. The unemployment rate dropped from 23.4 percent in 1983 to 14.2 percent in November, 1988, a 39 percent reduction, while the population remained fairly constant. Per capita income has increased there too. The 1990 request reflects the appropriate funding level for this program. We believe that the flexibility provided to the Commonwealth with this grant enables Puerto Rico to tailor a program to stay within the available funds while continuing to meet its goals.

Mr. Chairman, we are pleased to report progress in a number of important program initiatives which are contributing to improved service and lower error rates. We appreciate the Committee's support which has made this progress possible.

### ELECTRONIC BENEFIT TRANSFER (EBT)

FNS continues to be committed to improving administrative efficiency in the Food Stamp Program's issuance process. As you know, the use of EBT was demonstrated in Reading, Pennsylvania beginning in 1984. Rather than receiving coupons, households were given a magnetic stripe card to use in accessing their benefits at authorized retail grocers. This demonstration was well received by all involved parties but administrative costs were significantly higher than those encountered under coupon issuance.

To determine if the use of EBT technology can be cost-effective for the Food Stamp Program, four new project sites in Washington, Arizona, New Mexico and Minnesota have been selected to conduct additional on-line EBT demonstration projects. To help achieve cost-effectiveness, all sites will issue a combination of assistance benefits, e.g., Food Stamps, Aid to Families with Dependent Children, Refugee Assistance and General Assistance. To ensure cost-effectiveness from a FNS perspective, the Federal share of EBT food stamp issuance operating costs is capped at the current Federal share of coupon issuance costs. Operations are scheduled to begin in late 1989 and early 1990.

FNS is also exploring the feasibility of delivering program benefits via "smart cards." In such a system, benefits are stored on the card rather than a central computer system as in the Reading project.

### WELFARE REFORM

In early 1987, under the direction of former President Reagan, the Interagency Low Income Opportunity Advisory Board was established to facilitate the review, approval and evaluation of public assistance reform demonstration projects proposed by individual States.

FNS has been an active participant in the review and approval of these proposals to the extent that they affect the Food Stamp Program. Individual State proposals have been tailored to provide assistance to the specific needs of the population being served, while at the same time meeting broad national goals for welfare. All proposals must meet three basic criteria to be considered: dependency reduction, Federal budget neutrality and rigorous evaluation. The operation of several different projects allows many new and innovative ideas to be tested. Some States have emphasized administrative flexibility in their proposals and have combined the resources from several programs and eliminated conflicting rules which historically have made welfare programs difficult to manage for States and difficult to grasp for recipients.

Welfare reform proposals involving food stamps are approved under the demonstration authority contained in the Food Stamp Act of 1977, as amended. They will operate for a limited duration. At this time, 13 welfare reform proposals requiring food stamp waivers have been accepted by the Board. Six of these have received approval, four of these six have been implemented and the remaining seven are being reviewed.

### WORK PROGRAMS

Since April 1987, Food Stamp Employment and Training (E&T) programs have been serving food stamp recipients nationwide through programs designed by State agencies to meet their specific needs. In fiscal year 1988, over one million food stamp work registrants and volunteers were involved in E&T components. The components are varied, and include job search, job search training, workfare, vocational and basic education. Operation of the programs that year cost the Federal Government approximately $92 million in administrative funding and another $11 million was paid to State agencies to reimburse participants for expenses incurred in fulfilling E&T obligations.

### ERROR REDUCTION

Since fiscal year 1981 there have been significant reductions in the quality control error rates in the Food Stamp Program. Between fiscal year 1981 and fiscal year 1987, the national quality control payment error rate decreased from 9.9 percent to 7.59 percent, more than a 23 percent reduction. This represents a cost avoidance to the Federal Government of almost $1 billion. This improvement was broad based. For example, in fiscal year 1981, 22 States had payment error rates in excess of 10 percent, while in fiscal year 1987, only four States' payment error rates were above 10 percent.

We believe that our quality control incentive/sanction system has been at least partially responsible for this improvement. We will continue our rigorous enforcement of this system, as amended by the Hunger Prevention Act of 1988.

### CHILD NUTRITION/FEDERAL REVIEW SYSTEM

The budget requests $6.4 million for further implementation of the new Federal Review System for the Child Nutrition Programs which is currently proceeding on schedule. This effort is being carefully designed to compliment State efforts to improve the accuracy of School Lunch Program claims. School reviews will be conducted during March, April, and May of this fiscal year. A representative sample of approximately 200 School Food Authorities was selected randomly for review. The Food and Nutrition Service has coordinated the review effort with State agencies to avoid duplication of effort and has made every effort to review only School Food Authorities that are not being reviewed by States under the Assessment, Improvement and Monitoring System this year.

On the training side, a task force of State and local program administrators and managers, including representatives of the American School Food Service Association, was convened to provide advice and guidance on the most effective ways to use the resources made available for training purposes. The task force developed a list of alternatives that are now being implemented, including additional Federal guidance and technical assistance materials, model systems, and an increased effort to reach other groups whose constituencies have a significant impact on school lunch accountability such as the National School Boards Association and the Association of School Business Officials.

In addition to the Food Program Administration appropriation activities, we are requesting an increase of $1.2 million and 70 staff years to fully implement this system. A report to the Congress on our progress in implementing the Federal Review System will be provided in late summer.

### WIC COST CONTAINMENT

Participation estimates for the WIC Program do not reflect the program expansion anticipated from cost containment initiatives implemented by the States. Principal among these are the cost reductions from infant formula rebates of more than $300 million anticipated for fiscal year 1990. Currently over half the States have rebate systems and, as a result of language in the fiscal year 1989 appropriation, it is anticipated that all States will have made positive progress in this regard by August 31 of this year.

### AGENCY ADMINISTRATION

To keep progressing, we need to continue to further develop the capabilities of FNS to respond to changing legislation and increasingly complex program operations. The recent outstanding priority has been the computerization and updating of the many Agency operating systems. This investment in technology is beginning to pay off. This is particularly true in the day-to-day operations where information is produced more economically and shared more effectively. The larger system redesign efforts are just now being tested and are yet some years away from complete implementation. In the meantime, operating costs for our computer operations, including telecommunications, supplies and maintenance costs continue to rise, causing another round of belt tightening.

The Agency has, at the same time the programs have been expanding, examined its own operations and made changes which have reduced staff by nearly 30 percent.

For operations of the Agency in fiscal year 1990, we are requesting an appropriation of $96.8 million. This request is not to restore these past reductions . . . they will continue to be absorbed, but to provide for the continued investment in the systems work now underway and enhance program operations.

This request will fund the fifth year of the Information Resources Management Plan with emphasis on field office automation and the purchase of a new Central Accounting System for the Agency which will better meet the requirements of the General Accounting Office. It will also allow us to continue progress on the food stamp redemption system redesign. We have made substantial progress toward identifying solutions (including two pilot projects) and plan to direct more resources into this area in 1990.

An additional 50 staff years will also be funded to enable the Agency to better operate these new systems as well as provide the people necessary to properly implement the commodity donation responsibilities of the Agency and to evaluate the many welfare reform initiatives under way.

Mr. Chairman, this concludes my formal testimony and we will be pleased to respond to any questions you or members of the Committee may have.

Thank you.

---

## BIOGRAPHICAL SKETCH

### SCOTT DUNN

Scott Dunn has been with the Food and Nutrition Service since November 1986. Prior to that he served as Special Assistant to the Assistant Secretary of Agriculture for Food and Consumer Services for over five years.

Before joining the U.S. Department of Agriculture he served as a professional staff member with the U.S. Senate Committee on the Budget as the analyst for income security.

Mr. Dunn, a native of California, has also worked at the State and local levels of government. He holds a Master's degree from the University of Southern California and a Bachelor's degree from Claremont McKenna College.

---

## STATEMENT OF JAMES T. HEIMBACH

Mr. Chairman and Members of the Committee: I am James Heimbach, Acting Administrator of the Human Nutrition Information Service (HNIS). I am pleased to be here today to discuss HNIS's budget request for fiscal year 1990.

### MISSION OF THE HUMAN NUTRITION INFORMATION SERVICE

The mission of the Agency is fourfold: (1) to conduct and interpret applied research on the nutrient content of foods; (2) to monitor the patterns of food consumption by Americans and the nutritional adequacy of their diets; (3) to develop concepts and techniques for increasing the nutrition knowledge of professionals and consumers; and (4) to provide the policy basis for issuing Federal nutrition guidance to the American public. This research supports the Department's commitment and responsibilities to monitoring the dietary status of the population and to nutrition education. The importance of research in these areas was specifically emphasized by the Congress in the Food and Agriculture Act of 1977, the Agriculture and Food Act of 1981, and the Food Security Act of 1985.

HNIS has a total of about 94 scientists and support staff in 2 operating units: the Nutrition Monitoring Division and the Nutrition Education Division. The Nutrition Monitoring Division conducts national surveys to obtain information on food consumption by households and individuals and is the national resource for information on the nutritive value of foods. The Nutrition Education Division analyzes diets for implications for nutrition education programs and conducts research to determine how guidance can best be communicated to the general public and to at-risk groups. Within the USDA, HNIS has responsibility for the National Nutrition Monitoring System—a system of activities, primarily in USDA and the Department of Health and Human Services (DHHS), that are essential to providing timely information about the dietary and nutritional status of Americans and the factors that affect that status. HNIS also coordinates the development and publication of the Dietary Guidelines for Americans—another joint effort by USDA and DHHS.

Recent accomplishments illustrate our Agency's commitment to its mission:

1. A joint USDA/DHHS report on "Nutrition Monitoring in the United States" is nearing completion. This second report to Congress on the nutritional status of the population (the first report was issued in 1986) was prepared under contract by the Life Sciences Research Office of the Federation of American Societies for Experimental Biology. The new report includes an update on the dietary and nutritional status of the U.S. population based on survey data released since publication of the first report and an indepth analysis of nutritional factors affecting cardiovascular disease and iron nutrition.

2. Data collection for the Nationwide Food Consumption Survey 1987-88 (NFCS 1987-88) was completed in August 1988. Plans for analysis are underway.

The first reports—"Food and Nutrient Intakes by Individuals, 1 Day, 1987-88" and "Food Consumption: Households in the United States, 1987-88"—are planned for release in mid-1989,

HNIS has funded several extramural studies using NFCS 1987-88 data to identify dietary problems and the factors that have a beneficial or detrimental effect on diets. These include income, education, employment, size and location of the household, food assistance program participation, and life-style patterns such as eating away from home, skipping meals, and smoking. Information from such studies is important in the development of Federal nutrition education materials and in the design of effective programs and policies related to agriculture, food assistance, and education.

3. Publication of results from the 1985 and 1986 Continuing Survey of Food Intakes by Individuals (CSFII) has been completed. A series of nine reports is available to the public. Data tapes are available also to any persons wishing to do further analyses of the survey data.

4. The CSFII is being reinstated in April. The CSFII 1989-96 will consist of two samples each year—a sample of individuals in 1,500 all-income households and a sample of individuals in 750 low-income households. The survey includes the collection of 3 days of dietary data—an important aspect of all USDA surveys to allow us to take into account day-to-day variation in food intakes. The new CSFII differs in several ways from the 1985 and 1986 surveys:

It has been redesigned to be less costly than the 1985 and 1986 surveys. The use of a moving-average approach, recommended by two National Academy of Sciences Committees, permits a smaller sample than would otherwise be possible.

It will include all sex/age groups. The 1985 and the 1986 surveys included only women and men 19 to 50 years and children 1 to 5 years.

It has been designed to accommodate modules from other agencies with concerns relative to nutrition monitoring. In 1989, the survey will include a module planned cooperatively with the Food and Drug Administration and USDA's Food Safety and Inspection Service on consumer knowledge and attitudes on diet/health and food safety issues. This endeavor represents the first time that a nationwide sample will be used to study the relationship between individuals' knowledge and attitudes about foods, nutrition, and food safety and their actual dietary intake.

5. A new Dietary Guidelines Advisory Committee jointly sponsored by HNIS and the Office of Disease Prevention and Health Promotion of DHHS has been appointed to review the 1985 edition of the Dietary Guidelines for Americans and make recommendations for revision to the Secretaries of USDA and DHHS. HNIS is providing USDA's executive secretary and staff support to the advisory committee. After the committee has reported to the Secretaries, HNIS will work with representatives of DHHS to revise, edit, and publish the next edition of the Guidelines.

6. To help the public utilize the Dietary Guidelines more effectively, HNIS has developed and published four additional short bulletins. These bulletins cover menu planning and preparing food; eating better when eating out; bag lunches, snacks, and desserts; and shopping for food and making meals in minutes. They draw on information on food composition, food consumption behavior, food selection, and food preparation. They incorporate communication concepts found by Agency research to be the most appropriate for national education efforts.

7. A computerized Dietary Analysis Program has been developed in cooperation with the Extension Service as a nutrition education tool and has been made available to the public through the National Technical Information Service. This program allows any consumer or food professional with a personal computer to analyze up to 3 days of food intake for calories and 27 nutrients.

8. During the past year, two additional sections of Handbook No. 8 were released. These are "Fin Fish and Shellfish Products" and "Fast Foods." To date, 17 of 22 planned sections have been published. The remaining five sections are expected to be completed by 1990, with revisions of already published volumes well underway. Two new provisional tables (dietary fiber and stearic acids), and two revised or reprinted provisional tables (fatty acids and cholesterol and omega-3 fatty acids) were released this year also.

## FISCAL YEAR 1990 BUDGET REQUEST

The HNIS budget request for fiscal year 1990 is for approximately $9.5 million, up $645 thousand from our fiscal year 1989 appropriation of $8.8 million. All of the increase will be used to complete analysis of NFCS 1987-88 and to initiate analysis of the CSFII 1989-90. Also, this funding will allow us to continue the CSFII in 1991, to continue our current levels of effort in food composition analysis and nutrition education and guidance, and to support a new Joint Nutrition Monitoring Evaluation Committee.

A comparison of data from CSFII 1985/86 with that from NFCS 1977/78 indicates that significant changes have taken place in the dietary patterns of women 19-50 years of age and children 1-5 years. Analyses of NFCS 1987-88 and CSFII 1989-90 are essential to determine what changes have occurred in the other sex/age groups and—more specifically—what changes have occurred in the past several years. These analyses will allow us to modify and redirect our nutrition education activities and will provide important information for the design and implementation of Federal food and nutrition policies and programs.

The CSFII data collection that is being reinstated in April will be continued in 1991 with 1990 funding. This continuous collection and reporting is responsive to Congress' request for dietary assessment systems that include continuous monitoring (Public Law 95-419, Sec. 1428a).

The combination of the decennial surveys and the smaller continuous surveys has several advantages. The decennial surveys are needed (1) to provide data for identifying population segments, such as low-income elderly persons, with diets that might predict nutritional risk and (2) for certain indepth analytical studies to determine socioeconomic factors associated with food consumption, expenditure patterns, and nutrient levels. The smaller annual surveys (1) monitor trends in food consumption behavior, which can change quickly in response to shifts in economic status, availability of food supplies due to season and production and marketing practices, consumer perceptions about diet/health relationships, and many other factors, and (2) maximize staff productivity and provide a flexible structure into which topical issues and methodological investigations can be quickly incorporated.

## ONGOING HNIS ACTIVITIES

*Nutrition Monitoring.* The Joint Operational Plan for the National Nutrition Monitoring System was submitted to Congress in September 1987 and carries on the monitoring efforts that were outlined in the Joint Implementation Plan submitted to Congress in 1981. This plan describes nutrition monitoring activities into the 1990's and includes carefully planned sequential and systematic monitoring efforts that are being implemented by HNIS.

Major monitoring activities in progress include:

1. Monitor and provide technical support for conducting the annual CSFII 1989-96 and the telephone followup to assess consumer perceptions on diet/health and food safety issues.

2. Disseminate results from NFCS 1987-88 in published reports and public-use data tapes. Two types of reports are planned: (1) a series of technical publications for policymakers and the research/ professional audience that will provide detailed

statistical tabulations and information on survey methodology and (2) a series of popular publications for a more general audience that will present nontechnical, general survey findings.

3. Continue to update the support systems for NHANES III 1988-94 and CSFII 1989-96. These systems include food coding, volume/weight conversions, nutrient content of foods, and other complex data files for processing and interpreting data from dietary surveys.

4. Continue coordination with DHHS to assure that the monitoring activities of the two Departments meet the needs of Congress and others for information on dietary and nutritional status of the population, yet are as compatible as possible given the different objectives and data needs of the programs of the two Departments.

5. Continue to provide annual estimates of the nutrient content of the national food supply. This series provides the only source of data on trends since 1909 in foods and nutrients available for consumption.

6. Continue to assist State public health nutritionists and other State and local leaders in the use of USDA's nutrition monitoring data through participation in workshops and the design of research projects focused on the development of data on dietary status particularly useful to each State. Using NFCS 1987-88 data, a model is being developed to generate state-by-state estimates of dietary adequacy.

*National Nutrient Data Bank*. The National Nutrient Data Bank is an essential component of the National Nutrition Monitoring System because it is used in analyzing diets reported in both USDA and DHHS surveys. It is also a valuable national resource for researchers and educators concerned with food and nutrition, as well as for planners of national and international food and nutrition programs. Major activities in this area include:

1. Publish three sections of Agriculture Handbook No. 8 planned for release this year: cereal grains and pastas; lamb, veal, and game products; and a revision of beef to reflect current marketing practices.

2. Support food consumption survey operations in USDA and DHHS by updating and expanding survey nutrient data bases as requested.

3. Monitor and incorporate analytical research through extramural contracts for the following nutrients and dietary components in selected foods—dietary fiber, copper, zinc, manganese, magnesium, fatty acids, cholesterol, and plant sterols—and for all nutrients and dietary components in speciality fruits and in wild and cultivated fish.

4. In cooperation with USDA's Agricultural Research Service and industry, determine (1) the fat trim on pork sold at retail and its nutritive value and (2) the amounts of fat and cholesterol in fresh eggs sold at retail.

*Nutrition Education*. The Agency develops food and nutrition materials and techniques for increasing nutrition knowledge of professionals and consumers and for improving food selection behavior. Major activities in this area include:

1. Provide data and technical support to the Dietary Guidelines Advisory Committee reviewing scientific evidence on diet/health relationships and the Dietary Guidelines for Americans.

2. Promote the Dietary Guidelines for Americans through a number of research projects, including evaluating the Dietary Guidelines document and the bulletins designed to assist consumers in implementing the Guidelines.

3. Chair the USDA Dietary Guidance Working Group, comprised of representatives from nine USDA agencies and a liaison member from DHHS. This group reviews all USDA nutrition guidance materials to ensure that the Department "speaks with one voice" in conformity to Dietary Guidelines concepts. Provide liaison to the DHHS Nutrition Policy Board's Subcommittee on Dietary Guidance, the corresponding group at DHHS, to help insure that the two Departments also "speak with one voice."

4. Estimate costs for food plans at four cost levels monthly. The least costly of these food plans, the Thrifty Food Plan, is the legal basis for Food Stamp Program benefits. Data from NFCS 1987-88 will be used to update the food content and the costing procedures for the food plans.

5. Analyze data from the surveys to gain an understanding of dietary problems and their causes. For example, researchers are studying changes in eating patterns such as increased proportions of away from home meals and snacking and their effects on diet quality.

In summary, HNIS is the national resource for information on the nutrient content of individual foods and of the food supply and on the food and nutrient content of diets of households and individuals. The Agency conducts research needed for the development of materials and techniques required for helping Americans to improve their diets. We view these activities as basic to the Department's mission to assure that a safe, nutritious, wholesome supply of food is available to all Americans and to provide information that healthy Americans can use to select nutritious and healthful diets.

Mr. Chairman, I will be happy to answer any questions you or other Committee members may have.

---

## BIOGRAPHICAL SKETCH

### JAMES T. HEIMBACH

Dr. Heimbach is the Associate Administrator of the Human Nutrition Information Service (HNIS), an agency of the U.S. Department of Agriculture. He has been the Acting Administrator since November 1988. HNIS activities which contribute to the National Nutrition Monitoring System include monitoring the food and nutrient content of diets of the American population, assessing dietary status and trends in food consumption, studying diet-health knowledge and attitudes of the public as they influence diet decisions and maintaining the National Nutrient Data Bank of the composition of foods. In addition, HNIS conducts methodological research and research on nutrition education techniques, and provides dietary guidance in food selection and preparation and in food money management.

Prior to joining HNIS in 1988, Dr. Heimbach was Head of the Consumer Research and Education Staff at the U.S. Food and Drug Administration (FDA), where he directed a program of consumer and survey research in support of FDA regulatory responsibilities and Public Health Service educational activities related to diet and health.

Before entering government service, Dr. Heimbach was a marketing executive at the Nationwide Insurance Companies. He has also served as Adjunct Professor of Marketing at George Washington University in Washington, D.C., where he remains a member of the Advisory Committee.

He has published numerous articles in the field of public health and in marketing, and is frequently consulted throughout the government on consumer and nutrition issues.

Dr. Heimbach received his B.S. in Mathematics from Haverford College, and his M.S. and Ph.D. in Consumer Psychology from Purdue University.

He is married and has two daughters.

## CHILD NUTRITION FEDERAL REVIEW

Senator BURDICK. The 1989 conference report included explicit language concerning the series of independent Federal audits to be initiated this year of school fund services authorities. What efforts have the department taken toward training and education of State and local school food service authorities as designated by the conference report?

Mr. BODE. Senator, George Braley is Deputy Administrator of the Food and Nutrition Service for special nutrition programs and can most fully respond to your question.

Mr. BRALEY. Yes, sir; that requirement was added in the appropriations conference last year that we spend half of the money appropriated for this purpose for training efforts. We had been planning review efforts for some time before that. So, the training efforts have taken a little bit longer to get underway.

We do have plans to fully comply with the committee's directive to conduct training. We have worked with the American School Food Service Association and other program managers to get their ideas for an effective training program, and these training efforts would include the development of model accountability systems and a number of other initiatives that would help us teach people how to be more accountable as well as do the reviews that we had planned since the beginning of this initiative.

Senator **Burdick**. Do I understand that only preliminaries have been accomplished so far? Has the program been set in motion?

Mr. **Braley**. We have just begun setting the review activities in motion. The review effort began with the hiring schedule, training, and development of a reviewer's manual. We have started a series of 200 reviews in a nationally representative sample of school districts just within the last couple of weeks. Those activities will continue through May and we will have a statistically representative sample of the Nation's school lunch programs to report to you sometime this summer.

Senator **Burdick**. Several State and local food service directors have visited Congress to register complaints about the independent Federal review system. One of the major criticisms has been this review system is redundant and cumbersome. In light of other reviews of State and local authorities conducted simultaneously, what is the primary purpose of the independent Federal review system? How many full-time FNS employees have been hired for the program, and are these reviews redundant?

Mr. **Bode**. Sir, I do not think those reviews are redundant. It is unfortunate that in the discussion of this subject I think there has been a great deal of confusing information put out, and it is pretty easy to confuse matters when one is talking about various accounting systems and audit activities. Our principal effort to assure accuracy in meal counts is the Aims effort; that is, a single State effort.

We have indications that there are some grave problems with the effectiveness of that effort. The Inspector General went to 13 school districts and found 2 million dollars' worth of overclaims. We looked and found in 22 percent of the schools in a national review that there were more free meals claimed than there were children in attendance at those schools eligible for those meals.

Now, in light of that evidence, we felt the Federal examination of meal count and claims was appropriate because of the sizable amount of Federal moneys going in. We are taking precautions, of course, to assure that the standards are the same between the State Aims review, and what is done through the Federal review effort. And, additionally, that the Federal review system is not in a school on top of an Aims review. We will not be going to the same schools in the same year.

So, I do not think it is redundant at all. It is an additional activity that is being made to get a better idea of the scope of this problem. It could be very grave and it is reasonable to act to correct problems.

Senator **Burdick**. How many full-time FNS employees have been hired for this program?

Mr. **Bode**. It is approximately 70 staff-years, sir. I am sorry.

Senator **Burdick**. 70 staff-years?

Mr. **Bode**. Yes.

Senator **Burdick**. One recent complaint of the food service authorities is that more and more effort is being taken for auditing and management in the meal program, to the disadvantage of nutritional considerations and meal planning. Do you believe this is true and how can the situation be rectified?

Mr. BODE. Senator, I think more is being done in both areas, and that is appropriate. We have had concerns expressed, and I think it is healthy, about the nutritional quality of school lunch. School food service personnel, in addition to the Department of Agriculture, is very concerned—we all are—about the nutritional quality of school lunches. Additional efforts have gone into improving nutrition quality in lunch.

We also are putting, with our Federal review system proposal, increased efforts into assuring that there is sound program integrity within the School Lunch Program. With the evidence of serious problems present, I think that is in the best interests of the School Lunch Program.

School lunch has been looked at very carefully as Congress, and the administration as well, has sought to reduce the size of the budget deficit. A program that has sound integrity, demonstrably sound integrity, is in a better position when that is done.

Senator BURDICK. I just do not want to get carried away and have more emphasis on audits than there is on feeding the kids.

Mr. BODE. I agree, sir. We need to have a reasonable balance. I think you are right. I hope that you will recognize that we are very troubled. I think I would have a lot of trouble coming before this committee to say that the funds in the School Lunch Program are being reasonably administered and that we have a good stewardship of Federal dollars when we have the evidence of serious problems to which I referred earlier, if we were not taking some additional significant actions to find out exactly what the scope of that program is and set about reasonably to correct it.

### SPECIAL SUPPLEMENTAL FOOD PROGRAM

Senator BURDICK. The overwhelming popularity of WIC has prompted some to advocate that the program be reclassified as a capped entitlement. What are the views of the Department on such a proposal? What would be the effect on the program participation? What level of funding would be required for the program? There are three parts to that question.

Mr. BODE. I will have to get some help to find out what the cost would be. I must say that when one refers to a capped entitlement, the cap would set the cost. There are many ways that an entitlement-type approach to the WIC Program can be structured. The Department has not proposed any entitlement-type restructuring of the WIC Program, but I can tell you that at virtually no additional cost we could have an entitlement program for WIC high priority cases, the ones where we know the program does the most good. We could have that assurance that those top priority cases in the WIC program are eligible, and that would be accomplished without significant additional cost to the program.

Senator, I realize that I failed to answer some parts of your question. If you do not mind, maybe Mr. Braley can help me.

Senator BURDICK. I am interested in the cost of the program.

Mr. BODE. Then, I am sorry. I misunderstood your question.

Senator BURDICK. I am interested in your response to my question about cost.

Mr. **Braley**. Mr. Chairman, we have some estimates that were based on this year's program level, and it looks as though if you certified all people who were currently eligible for benefits, put them on the program, opened it up, it could cost as much as $1 to $1.5 billion. We certainly would be happy to try to refine that estimate and apply it to fiscal year 1990 for the record, but it is a fairly sizable amount of money.

[The information follows:]

### Estimate of Funding All WIC Eligibles

Entitlement status for the WIC Program would provide WIC benefits to all women, infants and children who apply and who meet the income and nutritional risk eligibility criteria. For fiscal year 1990, the cost of making WIC an entitlement program would be approximately $1.1 billion over and above the existing program cost of $1.9 billion. We do not expect everyone eligible to apply, nor do all enrolled actually participate (receive food instruments) each month. The estimates assume that 92 percent of those enrolled actually participate and that 90 percent apply for benefits.

These numbers do not reflect anticipated savings to be generated by infant formula rebates during fiscal year 1990. Savings from infant formula rebates are estimated to generate approximately an additional $346 million in fiscal year 1990. These savings cannot be uniformly applied to all program costs. The new participants added to the program with the money from rebate savings may be distributed differently among the risk categories. However, food cost savings from the rebates can be expected to reduce the cost of entitlement funding for WIC to approximately $750 million.

Senator **Burdick**. Would that be in addition to what we are spending now?

Mr. **Braley**. Yes; that is in addition to current expenditure levels.

Mr. **Bode**. Senator, I guess the point that I would bring to your attention is that one of the WIC Program's greatest strengths is its priority system and the fact that our current services are being directed at the highest priority cases. That is the group that I was referring to where an entitlement-type treatment could be provided for those top priority cases without affecting the current funding level.

That would not give, of course, entitlement treatment to the lower priority cases where the benefits of the program are believed to be and certainly have not been as strong.

### COST CONTAINMENT

Senator **Burdick**. The 1989 conference report requires States to examine the feasibility and implement cost containment procedures for infant formula and foods purchased under the Women, Infants and Children Feeding Program.

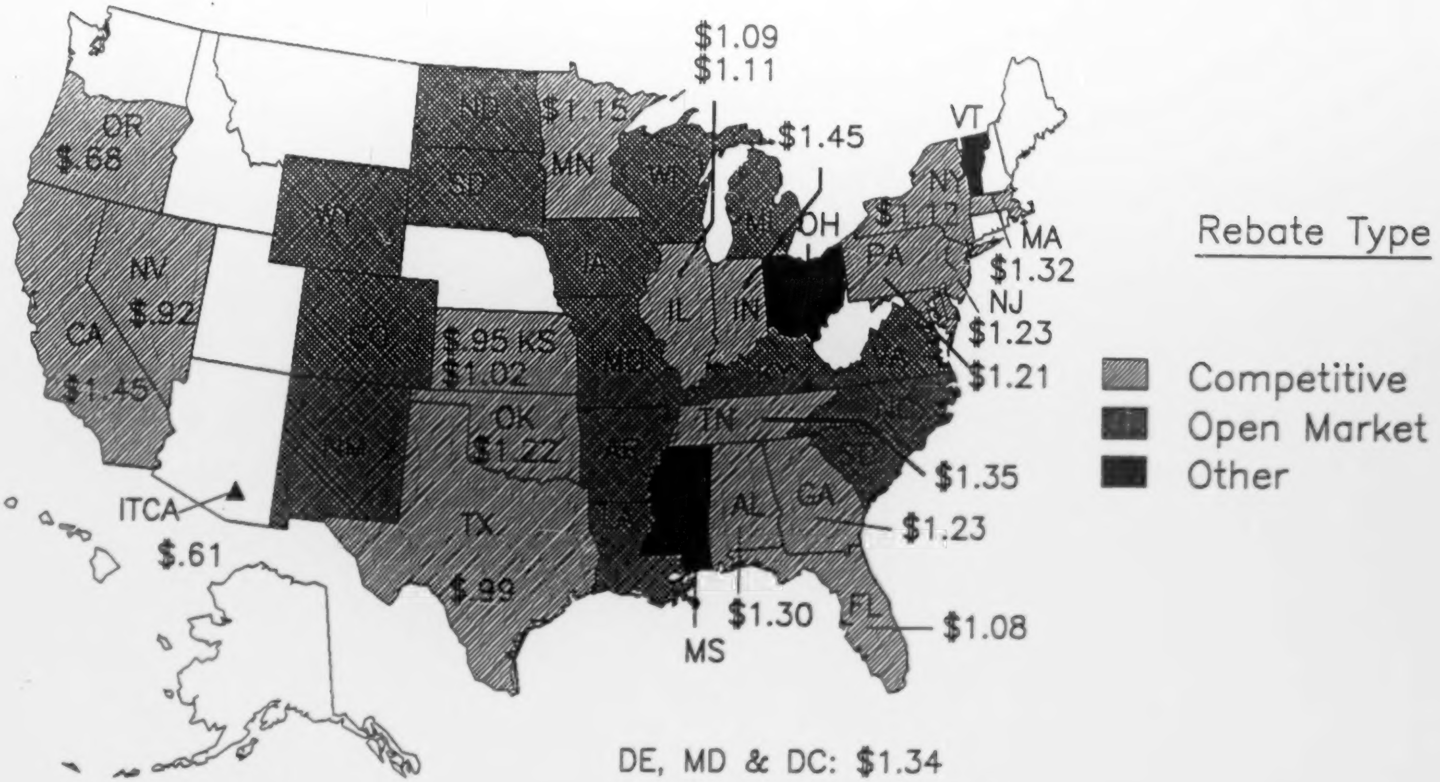
With respect to infant formula, are all States now working on cost containment measures? Please explain the implications of this directive on average monthly participation in 1989, and 1990, as well as what level of costs will be.

Mr. **Bode**. Yes, sir; we will be pleased to provide to the committee a State-by-State report on those initiatives.

[The information follows:]

# W I C PROGRAM

## STATE AGENCIES WITH REBATE SYSTEMS


$1.09
$1.11
OR
$.68
ND
$1.15
$1.45
VT
SD
MN
WI
NY
WY
MI
OH
$1.12
MA
NV
IA
PA
$1.32
$.92
IL
IN
NJ
CA
CO
$.95 KS
$1.23
$1.02
MO
$1.21
$1.45
OK
TN
$1.22
AR
$1.35
ITCA
AL
GA
TX
$1.23
$.61
$.99
$1.30
FL
$1.08
MS
Rebate Type
▨ Competitive
▩ Open Market
■ Other

DE, MD & DC: $1.34

We expect in 1990 to have all States participating in the infant formula rebate activities of one form or another, and in that year we think that approximately 700,000 additional participants measured on an average monthly basis would occur because of those efforts.

For 1989 we think it is about a 460,000 average monthly participation increase by September 1989.

If I may, sir, we do feel it is very good that the committee has looked at this matter more broadly than infant formula. Infant formula certainly is a major part of food package costs, but savings can be achieved elsewhere in the food package, and we have been urging states to do that and some have responded nicely. The benefit is that more people can be served because of those efforts in infant formula as well as elsewhere.

I think Mr. Braley can help me more fully respond to your question.

Mr. **Braley**. I wanted to add that, Senator, so far we have gone through all of the State plans and we have 30 States that already have an initiative of this sort underway. They are projected to save about $236 million this year and serve additional participants as a result of that.

We also have an Indian tribal organization that participates as a separate entity in the program that has already taken that step. Again, because of the appropriations bill from last year, we expect the others to be active in this area by the end of the fiscal year.

Senator **Burdick**. $276 million, how many actual participants does that mean?

Mr. **Braley**. We think that could support 460,000 additional participants in an average month this fiscal year. Exactly how the States would be able to bring them on remains to be seen, but the potential is there with this level of savings to serve an additional 460,000 participants by the end of the year.

Senator **Burdick**. Senator Kerrey.

### NUTRITION ASSISTANCE

Senator **Kerrey**. I have some detailed questions that I will submit in full.

Overall, I must express some disappointment at the FNS response. I see an urgency out there at home that would seem to deserve, particularly at an early stage, a more forthright and aggressive response, and I hear from you the need for study and the need for additional examination and audits and so forth, while at the local level I see children that are badly malnourished, who are suffering and that we are missing.

I appreciate all the constraints that are imposed upon us by the deficit. I appreciate that the deficit makes it difficult for us to respond, and I appreciate the fact there is not much you can do about that. But, I find myself having difficulty rationalizing the loss of human potential at the same time that I see a proposal to spend a couple of hundred billion dollars over a 10-year period to bail out the S&L's.

All of a sudden we have the wallet in addition to the will to solve that problem, and I will likely support the rescue. Given that you have been on the job now a while, and I understand you have indicated that you are going to be leaving, I am curious if you share the sense of urgency that I feel to get beyond what is almost a maddening calmness in the presentation of the budget, to get beyond that calmness to a greater urgency for Americans to respond as a community to young people that are, in fact, suffering right now.

Whatever damage is done cannot be repaired. We will never get this resource back. It seems to me that we need a greater call to community to respond and to solve the problem.

I have been a Governor. I believe I understand how difficult it is to work with the Food Stamp Program. I understand that irresponsible things are being done at the local level. I have seen it firsthand myself. I know that there is abuse of the system.

All of that is in place and exists, but it ought not to prevent an overriding urgency to act. We do not let the presence and the evidence of fraud and abuse deter us from developing an urgency to act when we see a potential financial crisis within the savings and loan industry. We separate that out and deal with it independently.

But, we have an urgency to move there that is going to require the American taxpayers to cough up $200 billion over the next 10 years because you know if we do not, the financial system of the United States of America could be endangered.

I look at children in America today and say, you know, we are losing this tremendous human resource right now as a consequence of inadequate nutrition, and I am just curious if you share any of that urgency as you look at America from the vantage of someone who has now been on the job for a few years and are now moving out into the private sector.

Mr. BODE. Senator, I guess I do not share your observation of a sense of great calm because President Bush has identified the WIC Program, a special supplemental food program for our women, infants and children, as a program that he feels should be protected and expanded. That comes after the program has doubled in size since 1980.

We have virtually full saturation in terms of infant service. Our high priority service has expanded greatly in the WIC Program. So, the areas where the program is doing the most good is serving at a high level, especially when looking at the kind of penetration that frequently occurs among entitlement programs. It is on a par when one looks at service for the poverty population and women and infants.

We do have and I think have had a fairly aggressive approach in terms of the overall funding of the WIC Program and its growth.

Moreover, I guess I must tell you that I am pleased by some of the data that I have seen that has not been the data from some of the advocacy groups.

But, instead, when I look at the Center For Disease Control's analysis of the incidence of anemia among children, comparing midseventies with the mideighties, they saw a marked decline in the incidence of child anemia in this country. We have seen, from careful systematic efforts to measure the quality of nutrition in this country, that among women and their children, nutrient consumption levels and quality of diet is on a par with all income groups.

Now, I understand your point, sir. I believe this general data does not mean that there are no problems. I understand that.

However, it does indicate to me that, in a broader sense, the general programs that we have are addressing the problem in an appropriate fashion, and we always need to work to do a better job of being sure that those in genuine need are reached as well.

I do fully agree with your point that the incidence of abuse should not be a governing factor in determining what programs are funded, provided that we are taking all reasonable efforts to prevent abuse of the programs. I think that has generally been done. We hope that can be done now that we have some serious concerns in the child nutrition programs.

Senator KERREY. I think you have given a very adequate defense of the program, and I would be the first to applaud the President for restoring the money for the School Lunch Program and for increasing funding for WIC and identifying it as a priority.

I do not take away any of that at all, nor do I, though I have not seen the data that you reference, take away the progress that has been made.

But I am respectfully observing nonetheless, I think, a calmness in the face of an urgency that I feel to a much greater degree than I do the urgency about the potential collapse of the savings and loan industry. Yet the response we are being asked for is on a different level. The call on behalf of America's children is clearly not on a level with the call on behalf of America's S&L's.

What I am asking goes beyond the data. I assume that you have visited nutrition sites. I assume that you have visited with mothers, with caseworkers at the food centers. I assume you have acquired some level of urgency for the problem in America, and that is what I am trying to determine. I am asking what sort of urgency do you feel independent of this budget, independent of the presentation and all the different programs that are in here? What sort of urgency do you feel for the potential loss?

Mr. BODE. Senator, I have made those visits, and I must tell you that I have consistently been impressed by the good that is done, especially by the WIC Program in providing assistance to pregnant women and infants. That program has yielded, I think, to some very real and substantial benefits in its supplemental food, as well as its other efforts. Its linkage to health, in particular, has provided some great advantages.

I am greatly pleased by the benefits that have been achieved there. I think that our ongoing effort of spending billions on just direct food assistance activities, some $20 billion a year, is appropriate. I think they are important, and those efforts need to be continued.

We also have a very vital need to expand our services where we can within the context of these available funds. What I am referring to here in particular is that by reducing food package costs in the WIC Program, we can get more people served. We are moving into the lower priority groups, and that is the way the program ought to be working, with the high priority service first and as additional funds become available, move into lower priority groups.

It is much more than simply a funding issue, though, because we have some people, some pregnant women in particular in the teenage group, who are not part of our health care system and are not participating in WIC. There are special problems with getting them into health care, and that is where our very greatest advantages can be gained.

That is really not a WIC funding issue so much, because they are our top priority group, as one of how one makes contact with pregnant teenagers. In particular, how to get them into the health care system where such very positive results can be achieved as well as the linkage with WIC.

### HEALTH CARE

Senator **Kerrey**. I could not agree more with you that it is not just a question of money. It is not just money. Do not misunderstand me. I am not just saying that we need more money, although I would argue for it.

Let me ask just one last question since you brought up the issue of health care. Have you done any analysis or do you have any recommendations as to how to resolve some of the turf battles that occur at the local level, in particular with regard to the distribution of health care through Medicaid and the distribution of food stamps that essentially focus on the same recipient and attempt to coordinate them, although it is extremely difficult, given the way that the programs are usually organized at the State level?

Mr. **Bode**. Senator, our work has been to look first at AFDC eligibility which, of course, has a linkage to Medicaid participation. We have been very frustrated but we have made some progress, although not as much progress as I would like, to get better conformity in eligibility determinations between AFDC and food stamps.

It is unfortunate that we have caseworkers working with both programs and in some States talking to the same applicant, filling out forms that ask the same sort of questions but in different ways for the different programs. It is unnecessary paperwork that the applicant is subjected to. It is a horrendously expensive waste of administrative resources and the taxpayers' dollars in that regard.

While I think the programs' applications and the eligibility requirements are reasonable when taken in isolation, we have to think about this overall burden that is placed on the applicant for assistance. How many times they need to go into an office and answer the same sort of questions over and over, but in slightly different ways, is a real concern as we think about just a hassle factor or a barrier to participation.

That is why we have worked—and I am very interested in the State initiatives to test some welfare reforms—so that we can get, I think ideally, some consolidation of program activities.

The Food Stamp Program and AFDC programs are very much income transfer, income security functions. A better coordination of those efforts is certainly appropriate, and I think when one looks, we have about 60 federally funded welfare programs. We really have to wonder how well a low-income person in need can deal with that maze of programs and have their needs met. Would we not do a better job with some very significant program consolidation to meet their needs and also to more efficiently provide for the assistance they need?

Senator **Kerrey**. Thank you.

Senator **Burdick**. Now, we will turn to Senator Cochran.

### EFFECTS OF DROUGHT

Senator **Cochran**. Thank you, Mr. Chairman. Let me welcome Secretary Bode and the others—Scott Dunn, Dr. Heimbach, and Bob Sherman—who are here this morning. We appreciate your cooperation in our effort to understand the budget request of the administration as it relates to the programs under your jurisdiction.

Before I make any observations about the budget and some of the programs, let me first of all compliment you on the outstanding job that was done in the preparation and publication of this report entitled "Drought, Food Prices and Food Assistance Programs—A Report to Congress." I believe it was just published—March 1989.

This is an excellent piece of work in my judgment. We asked you to do this when we passed the drought bill last year, and I think you have certainly done a wonderful job in looking at the impact that the drought had on food costs and the feeding and nutrition programs that come under your jurisdiction. I know this was a team effort, and I congratulate you for that.

### CHILD NUTRITION PROGRAMS

Let me make an observation about the budget as it relates to the School Lunch Program. I am glad to see the change in the Bush budget insofar as it restores the proposed reduction in the child nutrition programs that would have resulted in a cutback of support for many school lunch programs.

I am convinced that this change is going to make it more likely that many of our school lunch programs will continue to meet the needs of our children who attend school and who otherwise might not be able to have a balanced nutrition program.

### TEMPORARY EMERGENCY FOOD ASSISTANCE PROGRAM

The budget also eliminates the Federal sharing of State administrative costs of the Temporary Emergency Food Assistance Program. You will recall that last year when we passed the Hunger Prevention Act of 1988, we authorized $120 million for the purchase of additional foods under the TEFAP Program. I had cause to have inserted in that legislation language that would encourage the purchase of commodities within a State for distribution in that State in an effort to help save transportation costs and other expenses of administration of that program.

To the extent to which there are funds appropriated for that program, I hope that you can give careful attention to that provision of the bill and maybe realize some savings in that program by assuring surplus commodity purchases within States where those foodstuffs are made available to needy citizens.

## CATFISH INDUSTRY

Now, this is not related to that question, but in our State we have a burgeoning industry that is really an economic boon to our State and also is making a great impact throughout the country. The farm-raised catfish industry is now providing employment in Mississippi for 5,000 people. These are new jobs, by and large.

We are seeing an acceptability of the product grow day by day throughout the country. There is no question about the quality of it. And as many people are becoming more and more concerned about contaminated foods and difficulties of delivering a very safe and nutritious product to the consuming public, catfish is one product that has enjoyed a great deal of acceptability. Studies have shown that it is wonderfully nutritious.

I mention that to ask you whether or not the School Lunch Program has purchased any farm-raised fish, and if you have any intentions to continue to do that, if you do it now.

Mr. **Braley**. Senator Cochran, we have in the past purchased catfish for distribution through institutions and so on.

One of the problems we face in looking at that is the filets which are, of course, the boneless product, can be rather expensive for school lunch purchases and that sort of thing. We have made distributions in the past of farm-raised catfish to charitable institutions.

We have been visited recently by representatives of the catfish industry and have entered into some discussions about them because of the surplus situation they face at this time. They have also met with the Agricultural Marketing Service to indicate the situation that their industry faces right now, and that matter is under review as far as I know.

One of the obstacles, of course, is the price of the product and how it would compare to other protein sources that we would normally buy for the School Lunch Program. We have not seen a bottom line on that at this point, Senator, but it is being looked at, as I understand it.

Mr. **Bode**. As I recall, Senator, I believe you were looking at prices in the range of $1.35 a pound for catfish, and that is significantly higher, about 30 percent, than some other protein sources, which is a challenge in terms of how much one can appropriately buy in making the best use of those school lunch commodity dollars. But we do appreciate that catfish is certainly a very nutritious and wholesome and commendable product. We will certainly keep it foremost in mind as we look at market conditions and decide on purchases.

If I may briefly add, we greatly appreciate your comments on the drought study. I want to say that it has been a delight for me to work with the various study staffs, especially the one at the Food and Nutrition Service that did so much work on it.

I also note that on the funding for commodities of the Temporary Emergency Food Assistance Program the only funding controversy, I think, or difference of view concerns the administrative funding for that program, not for the actual purchase of commodities. We felt that for some years the Department of Agriculture has not had great enthusiasm for providing the administrative funds, but especially now as much lower levels or volumes of commodities are being provided.

It seems that if any administrative funds are going to be provided on a par with the past, a far lower amount than $50 million, which has been the past level, would be appropriate.

### CHILD NUTRITION FEDERAL REVIEW

Senator **Cochran**. Thank you very much for those responses.

In connection with deciding where administration responsibility should appropriately lie, I notice that there is contemplated a new review system for the School Lunch Program called the Federal Review System. I wonder about the extent to which this is going to duplicate other kinds of audits that are performed at the local and the State level.

I know we have four different types of audits already—the Aims review, single audit, Accuclaim, and the Office of Inspector General audits.

I wonder whether or not it might be appropriate to reexamine the justification for this new, possibly duplicative, effort at the Federal level and whether or not there is going to be any duplication of current work that is ongoing and that may be capable of doing the same job as the new Federal Review System.

I am not suggesting that we shouldn't find out if funds are being used for which they are appropriated and intended. I think we need to insist upon that, and if there are instances of abuse of this program at the local level, we ought to find out about it. We ought to punish people who are violating the law.

So, I am not suggesting that we ought to go easy on those who may be guilty of fraud or violations of Federal laws. What I am suggesting is that we need to be sure that there is not some less costly, just as good and efficient, method already available to us rather than creating a new system that may impose a lot of burden and more paperwork and difficulties than may be justified in some areas of the country. Maybe we should do some demonstration work in some of the areas where you think there is obviously abuse and the local officials are not doing anything to get at the problem.

I say go after them, but maybe it would be appropriate to take another look at this. What is your reaction to that?

Mr. **Bode**. Senator, I am very glad you raised that issue so we could deal with it directly. We have been pained by, I think, the confusion about what are all these audits.

When one looks at it, certainly there should not be a surprise that there would be some confusion when one talks about various accounting systems and everything.

The single audit—and I will ask Mr. Braley to correct me immediately if I am wrong on any of this—the single audit function is really not one that focuses on meal counts and claims. It is a broader audit function looking at overall financial systems in the school and school food service operation, but not really looking at whether those counts and claims are accurate.

The OIG audits that you referenced are focusing on that, but certainly not in a systematic way.

The Inspector General's audit activities are very, very infrequent when one looks at the size of our School Lunch Program in the country, and certainly cannot be viewed as a systematic approach to this matter.

Accuclaim was also mentioned. Accuclaim was simply an improvement initiative to the Aims system, and that is what that name was. So, the other activity that we are talking about is Aims, and that is the State audit activity that focuses on the appropriateness of meal counting claims.

The single function, then, really is Aims that we have been looking at and unfortunately, from our examination, there appear to be some grave problems in our accuracy of meal counts and claims.

The Inspector General looked into 13 school districts and found 2 million dollars' worth of claims. I believe there was also a nationally representative study which found that in 22 percent of the schools there were more free meals claimed than there were eligible and approved students in attendance that day.

Now, those are distressing signs. I do not want to say that the School Lunch Program is riddled with abuse. It is appropriate to say that there are signs for concern, and we ought to act aggressively to address those concerns, find out exactly what is the scope of the problem, and that is what the Federal Review System is intended to do. At the same time let us get that problem straightened out because it appears the Aims system, the State audit activity, is not effectively taking care of the problem.

We felt that this Federal Review System ought to be undertaken. I would like to see it as a temporary effort. I hope it shows that we do not have a grave problem or that if we do, we quickly get it straightened out and make some improvements if that is necessary—further improvements in the Aims system—and leave it as a State function.

But I am afraid there are signs of a grave problem, and the most responsible course of action in talking about the total amount of money involved here is a very modest effort to be sure that these Federal moneys in the School Lunch Program are being used appropriately.

Senator COCHRAN. Could you tell us where those most flagrant abuses were identified? Is that something that you can tell us? I hope it was not in my State.

Mr. BRALEY. There were 13 major school districts that were audited by OIG. I do not have a list of all of them, but a number of them were in Florida, New Jersey, Georgia, and a few other States. There was not a real concentration of them.

We did some other reviews out of our regional offices. One region in particular went in and found counting and meal claiming problems in over half of the schools that they looked at. That also gave us an indication that we may have a systemic problem here.

These are not nationally representative findings from the OIG work. They are certainly something that we need to look into in that the traditional systems we have had in place, having the States do local reviews, did not seem to be solving all of those problems. The Aims system after all has been with us for about 8 or 9 years and yet some problems like this continue to exist around the country.

Senator COCHRAN. I would like to be kept up to date on this. I think the committee ought to be kept advised of the status of your review, and if additional funds need to be appropriated or targeted to this special problem, we certainly need to be advised about that.

Do you think that the funds contemplated for this area of activity are sufficient for the needs as compared with the problem that you see now?

Mr. BODE. Sir, I think our request will do two things. First of all, we will find out what the scope of the problem is and get a nationally representative statement of what our problem is and then in a limited secondary way follow where there are indications of problems.

So, I feel it is an appropriate, a reasoned and balanced response to this evidence. I do not think it is an overreaction at all. I would not feel comfortable doing much less than that to find out what the problem is and at the same time, when we come across evidence of real problems, we follow up on it.

Senator COCHRAN. I appreciate your giving me the information and would like to be given a copy of whatever report you can compile for us now so that we will fully understand it. Then later, give us the report on the status of your review.

Mr. BODE. Senator, we look forward to doing that. We do have Federal review work in the field now. We will be getting some information in and we will provide you the very best information we can in an interim report before the committee marks up.

However, all of that information, our nationwide numbers, will not be available until late in the summer. But, the Department will be keeping you informed.

Senator COCHRAN. Thank you very much. Thank you, Mr. Chairman.

[The information follows:]

### ADDITIONAL BACKGROUND INFORMATION REGARDING THE GENESIS OF THE FEDERAL REVIEW SYSTEM

In May 1987, the Office of the Inspector General (OIG) released a summary audit report on 13 school food authorities (SFA's) participating in the National School Lunch Program (NSLP). This audit found that in all 13 SFA's and in 70 percent of the approximately 400 schools audited, problems existed with the integrity of the meal counts used to support claims for NSLP reimbursement.

One SFA overclaimed reimbursement for 628,415 free and reduced-price meals totalling $712,156. The auditors concluded that: Point-of-service meal counts were not conducted; all meals served were claimed as free regardless of student eligibility; meals claimed exceeded attendance; and vended sites claimed more meals than were actually delivered.

A survey of 37 schools by OIG and another State agency disclosed that a SFA had overclaimed 235,453 free and reduced-price meals valued at $249,364 in one school year based on inadequate meal count systems. This condition had been identified in two previous OIG audits of this SFA within a 10-year period but not corrected. Following the last OIG audit work meal claims decreased significantly.

Eleven SFA's did not make edit checks to ensure that school claims were consistent with the number of eligible students participating by category. Two SFA's unilaterally made significant increases and decreases in the numbers of free, reduced-price and full-price meals claimed by 52 of their 74 schools. When schools claimed more free meals during a month than possible considering eligibility and serving days, the SFA replaced the schools' claim amounts with the maximum number eligible.

Additional information supports this initiative. In a series of Food and Nutrition Service (FNS) reviews in five States involving 14 SFA's, 57.1 percent of the SFA's reviewed had counting and claiming problems. Further, a reanalysis of the findings from the National Evaluation of School Nutrition Programs indicated that approximately 22 percent of all schools were claiming more free meals on any given day than there were eligible children in attendance.

The Fiscal Year 1989 Appropriations Bill provided $5.2 million to FNS for this purpose, with $2.6 million targeted on independent reviews of SFA's and $2.6 million designated for training of State and local program cooperators in meal counting and claiming requirements and procedures.

The current status of Federal Review is as follows:

### REVIEWS

Reviews of over 200 school food authorities are being conducted March through May. These reviews will cover all areas of school food service operation that are critical to the integrity of the meal counting and claiming process. No punitive claims or penalties will be assessed. Recoveries will be limited to reclaim funds that supported ineligible meals or meals served to ineligible children.

In reviews where problems are found, in order to give the State and local SFA adequate time to respond, the closure process will require about 150 days from the end of the review. We will have data available for review as soon as possible after the reviews are complete. All information will be shared with the State agency(s) both for analysis and response as well as for follow-up.

### TRAINING

Discussions were held with representatives from the American School Food Service Association and State agencies to develop ideas on effective training strategies. Based on those discussions and on subsequent review and comment, six major training efforts have been initiated: Model Systems Guidance and Self Assessment Package; State Training; Outreach to Cooperating Officials; Local Training; Continuing Education Training Module/Curriculum; and AccuClaim Expansion.

I hope this brief summary gives you a better idea of how Federal Review came to be an important part of our efforts to control costs and improve program integrity in the NSLP.

## WIC PROGRAM ADVERTISING

Senator **Burdick**. The committee has become aware that some States have initiated advertising campaigns to expand program participation such as is depicted by newspaper ads. Has the Food and Nutrition Service instituted any guidelines for this type of outreach activities that are most effective?

Mr. **Bode**. Senator, does this concern the Food Stamp Program or the WIC Program?

Senator **Burdick**. WIC.

Mr. **Bode**. The WIC Program does have outreach activities, and there is some Federal guidance. I will ask Mr. Braley to help me.

Mr. **Braley**. We permit activities to target high risk groups to make them aware of the program. Is that the nature of the advertisement that you have, Mr. Chairman?

Senator **Burdick**. I would say so.

Mr. **Bode**. May I look at that, sir?

Senator **Burdick**. Help yourself.

[Pause.]

Mr. **Bode**. Senator, looking at this quickly, this is a newspaper advertisement that is delivering a message to try and get pregnant women into the WIC Program.

As you may recall, that is our real concern in WIC, that we get the pregnant women who are eligible to participate, and so we are encouraging pregnant women to participate. These outreach activities are funded through the WIC Program. They are supposed to be targeted efforts.

I must say that a full page newspaper ad depicting a pregnant woman is not, I think, the best of targeting efforts in terms of getting that message across. I must say too, though, I would be a little concerned about USDA being too restrictive in telling States how to go about getting the most bang for their outreach buck, but if there is further information you would like, we would be pleased to provide it.

I do not think this is the typical outreach mechanism by any means.

Senator BURDICK. I am not against pregnant women.

Do State plans include any limit on the amount of commercial advertising as allowed with the administrative funds? I do not know whether that ad could be construed to be advertising or not, but is there any limit?

Mr. BRALEY. We do look at State plans for reasonableness. I am not aware of a specific limit on commercial advertising, but I would be able to provide a fuller response for the record on that. That would come out of WIC administrative funding rather than WIC Program funding. In other words, it is not competing for benefits to participants directly. It is within administrative budgets.

Mr. BODE. States generally keep a very close eye on those administrative funds. I do not think that is an account that would be regarded by State WIC personnel as a fat one where they could do a lot of newspaper advertising.

### ADULT DAY CARE

Senator BURDICK. The 1989 conference report instructed the Department to issue regulations for the implementation of legislation making adult day care centers eligible for Federal meal programs. Knowing that regulations are in place, how many projects have been started and what is your estimate of current and 1990 participation in this program?

Mr. BODE. We did finally get those regulations out, sir. They have not been out for a long time, and I do not know that we have got any applications in yet. Maybe Mr. Braley can help me.

Mr. BRALEY. Mr. Chairman, those regulations were published on December 28, and we have been working with our State agencies who would actually sign up eligible institutions for that program. We've had a pretty wide range of interest expressed from State to State. In some States there seemed to be a fair amount of interest and in other States almost none, but it is really too early for us to have a very good handle on what the size and scope of that program is going to be. In some of the States where we had a big response, there is an indication that it could be larger than we originally anticipated.

I think we attributed about $5 million in annual expenditures to that. It has some potential for being larger than that, but we are going to be watching that very carefully. But, we do not have very good data on that just yet.

Mr. BODE. We could provide additional information to the committee as it becomes available, if you would like.

[The information follows:]

### ADULT DAY CARE

FNS recently published rulemaking which delays the deadline for application and claims for adult day care centers until April 17, 1989.

We have been working closely with our State agencies. Most of them will not have firm estimates of the potential participation of adult day care centers until they process applications and receive claims for payment. Our current estimate is that it will be several months before firm data is available on participation levels. We have been advised by some States, however, that they believe the levels of participation will be higher than originally anticipated.

### FOOD STAMP ERROR LIABILITY COLLECTIONS

Senator BURDICK. We appreciate that. The budget assumes a reduction of $101 million in the Food Stamp Program based on collections from States for their computational and clerical errors in providing benefits for food stamp recipients.

Recognizing the past difficulty of recouping penalties for State error liabilities, do you believe that this is a realistic estimate?

Mr. BODE. Well, Senator, I realize the estimates on this point over the years have not proven to be correct. Our estimates have been high.

We are very hopeful that a recent change in the food stamp quality control system will expedite these collections in the resolution of disputes about those claims. I do not know what else to say other than I realize we have been high in the past. I think our estimates of collections are somewhat lower now. We have been stepping up collections, though, at a modest pace.

Regarding collections, we have recently settled a few of the suits and look forward to getting more of them worked out more aggressively in the future.

Senator BURDICK. How much have you collected so far?

Mr. BODE. We have collected $3.9 million, sir.

You may recall that the Department of Health and Human Services, particularly with the AFDC Program, has been at this a few years longer than we have at the Department of Agriculture. I do not think they have collected anything yet.

We are setting the pace, I suppose, though it seems to be a rather slow pace in getting quality control claims collected. There is a significant improvement in the system because previously there was a quasi-judicial administrative review procedure for resolution of these claims where a board would hear the dispute and then that would be followed by a trial de novo judicial review. So, the whole thing would start over again. You would have a full trial and then that would be followed, of course, by judicial appeals being available. The time value of money in that process was never recognized because we were unsuccessful in our efforts to collect interest or have interest paid.

So, with sizable claims, the time value of money could conceivably more than cover attorneys' costs. There was a real incentive for dragging these cases out.

We now have changed that system. Trial de novo judicial review has been abolished. We have an Administrative Procedures Act-type review before an ALJ, an administrative law judge, and we think that this procedure will significantly speed it up while protecting due process rights of the States.

Senator BURDICK. What are you doing about the computational and clerical errors? That plays a part in this, too, does it not?

Mr. BODE. Yes, sir; and I think we have had some significant improvements in the reduction of error in the Food Stamp Program.

I referred in my statement to a report that we have had a 23-percent reduction in Food Stamp Program overissuances. That has saved the taxpayers because of reduced waste, if you will, over $950 million since 1981. That is a significant improvement.

There are many ways that that is done. One of them, of course, is to simply cut down on those computational errors. Increased automation has helped reduce computational errors, but the biggest source in causing error remains to be inaccurate information provided by the applicant household.

### DIETARY GUIDELINES

Senator BURDICK. What is the status of the current dietary guidelines committee? Who are the members appointed to that committee and have they yet met?

Mr. BODE. Sir, a new dietary guidelines advisory committee was recently named. They have not yet met, but plan to meet, I believe, in the first week of April. Maybe Dr. Heimbach can report to you on the names.

Dr. HEIMBACH. I do not have all the names at hand. The chairman of the committee is Dr. Milton Nesheim, and I will write a list for the record of all the members.

Mr. BODE. I can tell you, sir, that we feel we have a very prestigious panel that was selected jointly by the Department of Health and Human Services and the Department of Agriculture. We felt that we had a group of eminent scientists.

[The information follows:]

#### MEMBERSHIP OF THE DIETARY GUIDELINES ADVISORY COMMITTEE

Chairman: Malden C. Nesheim, Ph.D., Cornell University.

Members: Lewis A. Barness, M.D., University of Wisconsin; Peggy R. Borum, Ph.D., University of Florida; C. Wayne Callaway, M.D., George Washington University; John C. LaRosa, M.D., George Washington University; Charles S. Leiber, M.D., Mt. Sinai School of Medicine; John A. Milner, Ph.D., University of Illinois; Rebecca Mullis, Ph.D., University of Minnesota; and Barbara Schneeman, Ph.D., University of California.

### REPORT ON NUTRITION AND HEALTH

Senator BURDICK. What changes can we anticipate in the next edition of this document in light of the 1988 Surgeon General's report on nutrition and health and the 1989 National Research Council report on diet and health? Is it possible now to provide consumers with quantitative information on the foods they select? Can we expect guideline changes in the future?

Mr. BODE. Senator, I would not want to prejudge this advisory committee. I think that when one looks at the Surgeon General's report, as well as the reports of the National Academy of Sciences and the National Research Council, one sees very broad reviews. The Surgeon General's report was certainly providing, very much in line with the existing dietary guidelines, a significant change that I saw in looking at the National Research Council.

The Research Council report is an aggressive move toward quantitative guidance, but that was generally not given nor compelled by surprising new evidence or research, but by a different review or group of scientists reviewing the same general research and being a little more aggressive in the kind of guidance they provided.

I must say that we have a significant concern about quantitative guidance being given to the general public, because the general public has a wide diversity of dietary needs. Sir, your dietary needs and the dietary needs of my 6-year-old son and of women in childbearing years are significantly different. To give one set of quantitative dietary guidance for the general public and try to expect it to meet everyone's needs is a significant challenge, especially when looking at the rest of the population dietary needs of children.

So, as a matter of policy, I think that the Federal Government should be very sure that it has a sound basis before moving to give quantitative guidance. It should be careful if it ever does give such quantitative guidance to appropriately describe that information so it is not misunderstood or more broadly applied than would be advisable.

### NUTRITION ASSISTANCE TO PUERTO RICO

Senator BURDICK. The budget proposed a reduction in the Nutrition Assistance Program for Puerto Rico to its 1985 funding level of $825 million. This is a reduction of $84 million below the 1989 level. The Food Security Act authorizes $936 million for Puerto Rico's Nutrition Assistance Program in 1990.

Is it true that between 1988 and 1989 average monthly household benefits under the NAP declined by $20 per month? How would the proposed reduction affect household benefits? Would fewer households be eligible, for example?

Mr. BODE. Senator, I am afraid that I cannot confirm the information that was included in your question regarding the change in benefits in Puerto Rico, but I can say that, if $825 million is the appropriated amount for the Puerto Rico Nutrition Assistance Program, that funding level would require some restrictions in Puerto Rico.

The Commonwealth of Puerto Rico would have discretion in how it would be accomplished. They would either reduce benefits, reduce the number of people receiving benefits or they would do some combination of the two which, if I may speculate, is probably the most likely approach that they would take.

The amount of moneys for special projects in Puerto Rico is relatively modest in this overall effort.

Senator BURDICK. Thank you all, gentlemen, for your contribution this morning.

I would like to leave this hearing on kind of a personal note.

While you are taking care of all these fish ponds in the South, do not forget the northern pike up there in my country.

---

## SUBMITTED QUESTIONS

Additional questions will be submitted by the following Senators: Kerrey, Harkin, Cochran, Kasten, McClure, Adams, Grassley, Specter, and Burdick.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

## QUESTIONS SUBMITTED BY SENATOR BURDICK

### FEDERAL REVIEW OF SCHOOL CLAIMS

Question: How many reviews are required by the Federal government of school food service operations? How can these reviews be distinguished, one from the other? Are there different levels of review that are conducted simultaneously?

Answer: There is a great deal of misinformation being generated about the extent of required reviews of school lunch operations. Most activities cited by those who use this data to describe Federal Review as an unnecessary duplication of other activity are not reviews, but simply basic management activities that are necessary for the effective oversight of the program whether or not they are required by law or regulation. Those that do constitute review activity either do not generally deal with meal accountability or have dealt with it ineffectively. The following discusses each of the items which we have learned others are identifying as "reviews."

Audits of Major Federal Programs under the Single Audit Act Current Federal audit requirements generally mandate that School Food Authorities (SFAs) be audited annually or biannually, depending on the legal status of the SFA. These requirements are based on legislation and the Office of Management and Budget circulars. These audits concentrate primarily on the general financial operations of the audited SFA. While the Food and Nutrition Service (FNS) does not receive copies of all such audits, a review of those available establishes that most do not review the National School Lunch Program (NSLP) specifically. Those that do review NSLP emphasize mainly the fiscal aspects of the program (e.g., bookkeeping and accounting systems), not program management or program operations. Thus, these audits do not sufficiently focus on meal accountability issues and do not provide any basis for a determination regarding the quality or effectiveness of the meal counting and claiming process in the SFA.

State Reviews every 4 years of School Lunch Accountability Standards Although the Assessment Improvement, and Monitoring System (AIMS) requirements have been in place for 8 years, information from a number of sources indicates that serious problems continue to exist with the fiscal integrity of claims for reimbursement submitted by schools for meals served under NSLP. AIMS requires SFAs to be reviewed only once in 4 years with a limited number of schools within each SFA subject to an on-site review. FNS estimates that in any given year, between 8,000 to 9,000 of approximately 90,000 participating schools are reviewed under the AIMS standards. With more than 90 percent of schools nationwide operating NSLP without a yearly meal accountability review, FNS believes the Federal review is appropriate and does not unnecessarily duplicate this activity.

Annual State Agency paper review of schools' cash collection and meal accountability procedures States are required to do a paper review of these procedures, but are not required to ensure the system outlined by the school is in place or correctly implemented. Without on-site verification, this paper review does nothing to demonstrate that the system described by the SFA is the one currently in place or, if it is in place, that it is implemented properly and completely and that it is effective in arriving at accurate meal counts and claims.

Reviews conducted by FNS in a State Management Evaluation A review conducted by FNS under the USDA management evaluation process is an oversight activity covering all Child Nutrition (CN) operations at the State level and does not necessarily include any local reviews. This activity includes a paper review of a description of SFA meal accountability procedures, but this is not sufficient to determine if the description is accurate, if the system is implemented as described, or if the system is an effective one. Over the last 3 years FNS has conducted an average of 26 management evaluations annually. During 1988 FNS conducted 69 local reviews, either as a part of or in addition to scheduled management evaluation activity. This represents a review of only 3 tenths of 1 percent of the SFAs nationwide.

OIG Audits of States Agencies and Local Districts The OIG has no requirement concerning the number of NSLP audits they conduct each year. Over the past 5 years, OIG has averaged six audits yearly. Under that schedule it will take OIG many years to audit all 20,000 SFAs.

Local and State reviews of meal counting procedures, as proposed in federal regulations The AccuClaim regulation strengthens the AIMS System, and would require these reviews be conducted by the SFA. The reviews would consist of a visit during the meal service only to observe the meal counting procedures in place. These reviews would be only a brief observation of the meal count system and do nothing to verify the integrity of claim consolidation, eligibility determinations, verification activity or meal patterns. In addition, the self monitoring activity would simply be a good basic program management practice and in no way constitutes an independent review of activity within the SFA. The States would have no on-site responsibilities under this regulation, and are only required, as stated above, to review the meal counting procedures submitted by the SFAs to ensure that on paper they appear to be sufficient to arrive at accurate meal counts and claims. Again, this annual paper review, without on-site verification, does nothing to demonstrate that the system described by the SFA is the one currently in place or, if it is in place, that it is implemented properly and completely and that it is effective in arriving at accurate meal counts and claims.

State Agency follow-up to complaints, OIG audits, single audits and regulatory local/state audits Although there is no data available on the extent of these activities, follow-up activity required as a result of an identified problem does not constitute additional review activity. The task of providing follow-up to any complaint, audit or review finding is a function of basic management of the program and in no way duplicates audit or review activity.

It is unlikely that any of these reviews would be conducted simultaneously, with the exception of local reviews that might be part of an FNS management evaluation of a State agency. In that case, FNS reviewers would most likely accompany State reviewers on an AIMS review of a local school food authority in order to assess the quality of the State review effort.

Question: Will the independent Federal Review System be a permanent or temporary program? Will this Federal review obviate the need for any State or local audit functions?

Answer: Federal review is a temporary pilot effort to spot check school counting and claiming accuracy. The results of the first year's reviews should indicate whether a long-term effort is warranted. How long it is necessary will depend to a great extent on the problems identified through the review effort and how quickly those problems can be resolved. However, we do not envision eliminating or duplicating State review activities. The Federal review will serve as a complement to existing State and local agencies which are responsible for reviewing activities beyond the scope of the Federal system.

Question: What efforts are you taking to comply with the Conference Report to avoid duplication in the review process?

Answer: The random list of potential Federal review sites was shared with State agencies very early in the process. In accordance with the Conference Report language, any sites that had or were scheduled for a review under AIMS this year were dropped from consideration under Federal review so that there would be no duplication of effort.

## WIC PROGRAM - COST CONTAINMENT

Question: Some have suggested that net participation increases of the magnitude you express are meaningless in the face of requests for increased funding for this program by $150 million above current services in 1990.

Would you comment on this statement. Also, please tell the Committee to what extent the women, infants and children feeding program is serving targeted groups?

Answer: In the environment of cost containment initiatives, I think that our proposal would support meaningful participation increases in WIC. When cost containments are considered, maintaining Federal funding as proposed will allow average monthly participation to increase by about 460,000 over the level projected for Fiscal Year 1988, and about 240,000 above the Fiscal Year 1989 level, for a total increase in participation of 700,000 by Fiscal Year 1990. WIC is rapidly expanding participation due to cost containment activities, including infant formula rebates. Clinics are already strained by the effort to make use of the funds currently available and may have difficulty using additional funds if appropriated. Congress recognized this situation when it passed P.L. 100-356 increasing the amount of funding that a State can carryover into the next fiscal year when implementing a food package cost containment system. Additional funding of $150 million would allow average monthly participation to increase by about 285,000 above the anticipated level. I think that it would be difficult to accommodate that amount of growth, even in the WIC program.

I should also note that WIC served about 46 percent of all eligibles in 1986. If the Fiscal Year 1990 budget proposal is enacted, and cost containment initiative savings reach anticipated levels, WIC will serve about 63 percent of all eligibles below 185 percent of poverty. Also, it's critical to remember that WIC is highly targeted towards those most at risk and for whom the program impacts are proven. Almost all eligible infants are now served--the program is near saturation for this target group since 30 percent of all infants in the U.S. now participate in WIC. In sum, 2/3 of all the eligible women and infants currently receive WIC benefits. Across all WIC categories, over 60 percent of those eligible with income below the poverty level receive benefits.

Question: Another concern expressed is that infant formula producers could band together again to control competition in prices for infant formula, and that the WIC program would be a captive audience to such agreements. Do you believe this is possible? Would such a scenario have a detrimental effect on confidence in the WIC program?

Answer: The Department has long procured infant formula for the Commodity Supplemental Food Program competitively, as has the Mississippi Special Supplemental Food Program for Women, Infants and Children (WIC). This limited experience does not provide an adequate basis for predicting the behavior of infant formula manufacturers in the new environment where formula rebate systems are the rule rather than the exception among States. However, formula producers can be expected to take whatever legal steps are available to protect their profits. States with competitive procurement systems now receive rebates as high as $1.35 per can of formula. States with open market, or noncompetitive, systems usually receive rebates of about 87 cents.

Question: How do we continue to demonstrate our support for WIC, without subjecting it to unfair profit skimming?

Answer. Section 645 of the Agriculture Appropriations Act of 1988, P.L. 100-460, provides effective congressional support for WIC by requiring States to implement a competitive bidding, rebate, home delivery, or direct distribution system if, having studied such systems, the States find implementation practicable and cost efficient. The Department has provided guidance to the States to help them comply with this mandate and has developed implementing regulations which are now in clearance. This legislation has accelerated movement among States toward infant formula rebate systems and will soon begin to have the concrete effect on the WIC Program of increased participation.

## WIC PROGRAM EXPANSION

Question: Considering the major infusion of funds into the women, infants, and children feeding program in recent years, have States been able to manage program expansion efficiently?

Answer: Yes, States have been able to manage WIC Program expansion efficiently in response to the major recycling of funds. From Fiscal Year 1985 to Fiscal Year 1988 the WIC Program experienced a 20 percent increase in its appropriation to finance both increases in food costs and increases in participation. During this same time period WIC Program average monthly participation increased 14.7 percent. Much of the increase in participation was directed toward the higher priority categories. Also, the percentage of unspent funds has decreased each year since Fiscal Year 1985. The rapid expansion in participation due to food cost containment activities, however, has put strains on the system. Congress recognized this situation when it passed Public Law 100-356 increasing the amount of funding that a state can carry forward into the next fiscal year when implementing a food cost containment initiative.

Question: How has participation been affected? What percentage of infants are we now serving? What portion of eligible nutritionally at risk of all ages are being served?

Answer: Cost containment activities during Fiscal Year 1990, including infant formula rebates, will allow an increase of about 700,000 in average monthly participation beyond the 3.7 million level that could otherwise be supported. Participation has already increased, reaching 3.9 million in December 1988.

Almost all eligible infants are now served--the program is near saturation for this target group since 30 percent of all infants in the U.S. now participate in WIC. Overall, WIC served 46 percent of the eligible population in 1986 and participation continues to increase. Assuming continued cost containment activities throughout 1990, we expect to serve 4.4 million women, infants, and children, or two-thirds of all those fully eligible, including 100 percent of eligible infants and nearly all pregnant women with incomes below the poverty level.

## WIC PROGRAM OUTREACH

Question: The Committee has become aware that some states have initiated advertising campaigns to expand program participation, such as is depicted by newspaper ads. Has the Food and Nutrition Service instituted any guidelines for the types of outreach activities that are most effective?

Answer: FNS is aware that some States using broad, widespread outreach techniques have not been particularly effective in attracting highest risk WIC eligibles. Because FNS has determined that more refined techniques are needed to target benefits to the most needy of WIC participants, FNS funded a WIC Benefit Targeting Study in 1987 to find effective ways to reach high-risk, eligible pregnant women and bring them into the WIC program at an early date. The purpose of the study was to:

- identify successful methods already developed by State and local agencies;
- select a number of "best practices" that appear feasible for widespread transfer and implementation by other WIC State and local agencies;
- conduct a demonstration testing and evaluating the transferability of such practices in a number of types of local WIC settings;
- and develop extensive materials on these tested and proven methods and implement training procedures for widespread dissemination to WIC State agencies.

The Phase I Report of this study which identifies effective strategies was published in April 1988 and disseminated to all WIC State and local agencies. A Phase II report on the demonstration is expected to be issued in July 1989. The study is scheduled to be completed in late 1989.

With regard to the specific instance recently observed in which a State instituted a massive, non-targeted publicity campaign, it should be noted that FNS believes States should direct their efforts to a more targeted audience to ensure that hard-to-reach, highest risk persons are made aware of WIC's benefits. FNS, through its Midwest Regional office, is looking into the matter.

Question: Do State plans include any limit on the amount of commercial advertising that is allowed with administrative funds?

Answer: Authorizing legislation mandates that not more than 20 percent of the WIC Program appropriation be allocated for administrative and program services expenditures. State agencies establish their own budgets within this funding constraint. Program regulations require State agencies in their State plans to describe actions to publicize availability of program benefits; however, the individual State agency has the flexibility to determine the methods to be used and amount of funds to be expended for this purpose. However, FNS does reserve the right to suggest to States how to make their efforts as efficient and effective as possible and, as the need arises, will pursue with States more effective methods to target benefits to those at highest risk among WIC's eligible population.

Question: Is this an area that might deserve more attention?

Answer: USDA has received recommendations to place increased emphasis on targeting benefits in the WIC Program to those persons at highest risk from several sources, including the National Advisory Council on Maternal, Infant and Fetal Nutrition, and the U.S. General Accounting Office. Pregnant women are recognized as the group of eligibles most vulnerable to the effects of poor nutrition, and their unborn infants are most likely to benefit from nutritional supplementation. Therefore, USDA has been working to improve the targeting of WIC Program benefits to those at highest risk in order to promote the most efficient use of administrative and operation resources. Efforts include development of the following publications:

Benefit Targeting in the Supplemental Food Programs. This fact sheet summarizes all major targeting-related efforts that USDA has undertaken to date including the following areas: eligibility, funding, the WIC priority system, reporting requirements, and State plan requirements, research, Federal coordination, and cooperative efforts. It was published in August 1988 and made available to WIC State and local agencies and other organizations and interested persons.

- WIC Makes a Difference. This pamphlet, which is due to be published in the fall of 1989, will encourage health care professionals who have access to high-risk and hard-to-reach potential participants to refer them to the WIC Program.
- Targeting Poster for Pregnant Women. This poster, which is also due to be published in Fiscal Year 1989, will contain a simple message to assist WIC local agencies in their efforts to target program benefits to high-risk pregnant women. The poster would be displayed in places frequented by low-income pregnant women such as grocery stores, laundromats, workplaces with low wages, community centers, soup kitchens, welfare hotels, schools, and teen gathering places.

Additionally, as discussed earlier, FNS funded a WIC Benefit Targeting Study in 1987.

## ADULT DAY CARE

Question: The 1989 Conference Report instructed the Department to issue regulations for the implementation of legislation making adult day care centers eligible for federal meal programs. Noting that regulations are in place, how many projects have been started?

Answer: The program is brand new. While we understand that State agencies have received a number of applications from adult day care centers, the number of projects which have been approved and are actually participating is very small.

However, I must point out that this program has a potential for substantial growth under current law, especially if State licensing practices expand eligibility to senior centers. According to the National Council on Aging, there are 9,000 to 11,000 senior centers in operation today and more will undoubtedly be created in the future. This trend may in fact be strengthened by the availability of Federal meal programs. We cannot predict how many centers will actually apply or qualify for the program nor do we know how many individuals will qualify for Federal meal subsidies. It is at least possible that the program could grow very substantially beyond our current projections. In any event, we will be monitoring this situation very closely and will keep the appropriate committees of the Congress informed as events proceed.

Question: What is your estimate of current and 1990 participation in this program?

Answer: Our estimates of the cost of adult day care doubled from Fiscal Year 1988 to about $10 million in 1989 and $11 million in 1990. However, we are not in a position to provide solid estimates at this time. There is significant potential for growth in this program and we will be monitoring the situation very closely.

## PUERTO RICO NUTRITION ASSISTANCE PROGRAM

Question: The budget proposed a reduction in the Nutrition Assistance Program for Puerto Rico to its 1985 funding level of $825 million. This is a reduction of $84 million below the 1989 level. The Food Security Act authorizes $936 million for Puerto Rico's Nutrition Assistance Program in 1990. Isn't it true that between 1988 and 1989, average monthly household benefits under NAP declined about $20.00 per month?

Answer: Preliminary reports indicate that the average monthly household benefit for the first five months of Fiscal Year 1989 was $156. Current information indicates that the average benefit issued to households during the same months in Fiscal Year 1988 was also $156.

While several months still remain in the fiscal year, there is no reason to believe that the Commonwealth will significantly lower benefit levels to such an extent.

Question: How would the proposed reduction affect household benefits?

Answer: The Commonwealth will decide how to operate the Nutrition Assistance Program (NAP) under the proposed level of funding. Funds are currently used for benefits, administration, and special projects. Despite lower unemployment rates and NAP benefits that have outpaced local food inflation, the reduction in funding could not be absorbed simply by reducing administration and special project costs. The Commonwealth could reduce the level of benefits per person, reduce the number of participants, or implement a combination of benefit and participant reductions.

Question: Would fewer households be eligible?

Answer: The authorizing legislation gives the Commonwealth the flexibility to determine how to operate NAP with funding at $825 million. The Commonwealth could reduce the level of benefits, change eligibility requirements and thus reduce the number of participants, or take some combined approach. It is also possible that fewer households would be eligible even without change to the eligibility requirements if economic conditions continue to improve.

Question: What is the reasoning behind denying inflation adjustments in the Puerto Rico Nutrition Assistance Program? Why is the Administration reducing the NAP to its fiscal 1985 funding level?

Answer: Since the NAP is a mandatory block grant, funding is not driven by caseload or economic factors. The appropriate funding level may be well below the authorized level. This is not unique for NAP. For example, the Food Stamp Program authorization--excluding NAP--for

1990 is $15 billion and the amount needed and requested is $13.26 billion.

Since the block grant was established in 1982, Puerto Rico has experienced significant economic gains. The unemployment rate dropped from 23.4 percent in 1983 to 14.2 percent in November 1988, a 39 percent reduction, while the population remained fairly constant. Per capita income has increased there too. The 1990 request reflects an appropriate funding level for this program. We believe that the flexibility provided to the Commonwealth with this grant enables Puerto Rico to tailor a program to stay within the available funds while continuing to meet its goals.

## NUTRITION MONITORING

Question: How much are you planning to spend on nutrition monitoring in the current fiscal year? In 1990?

Answer: HNIS will spend approximately $4.1 million in Fiscal Year 1989 on food consumption surveys and their analysis. This amount includes work done in-house and extramural contracts and cooperative agreements. In addition, the Agency will spend approximately $1.7 million for food consumption analyses and for maintaining and expanding the National Nutrient Data Bank--an integral part of the National Nutrition Monitoring System of both USDA and DHHS. Expenditures in Fiscal Year 1990 are expected to increase by $0.6 million.

Question: When will the data analysis from the 1987 Nationwide Food Consumption Survey be available?

Answer: Initial reports, both popular and statistical, will be available later this year. In-depth analysis of the Survey will be available in 1990.

Question: What types of nutritional trends can be observed from the data collected over the last five years from the Continuing Survey of Food Intakes by Individuals (CSFII)?

Answer: The Human Nutrition Information Service has completed two years of data collection for CSFII--1985 and 1986. Publication of results for both these years has been completed. Another year of CSFII data collection will begin in April of 1989, after a two-year pause to evaluate survey methodology.

Among the findings are the following: Women in 1985 consumed more skim and lowfat milk; carbonated soft drink; mixtures that are mainly meat, poultry, and fish; and grain products than they did in 1977. They reported consuming less whole milk, less meat, and fewer eggs. Generally, higher income and more educated women led in these food consumption changes.

In 1985 and 1986, women's intakes of all nutrients, expressed as percentages of the 1980 RDA, were about as high or higher than those in 1977. In 1985, 1986, and 1977 women's mean intakes were below the RDA for vitamin B-6, calcium, magnesium, and iron. In 1985 and 1986, women's intakes failed to meet the RDA for three additional nutrients not examined in 1977--vitamin E, folacin, and zinc. Nutrient intakes that were below the RDA for all women were also below the RDA when women were classified by income or race.

Children's intake of food energy and nutrients, expressed as percentages of the 1980 RDA, were higher in 1985 than in 1977. However, their iron and zinc intakes failed to meet the RDA (88 percent and 84 percent, respectively) in 1985. In 1977, children's intakes were slightly below the RDA for food energy, vitamin B-6, and calcium; they were well below the RDA for iron. Zinc intakes were not measured in 1977.

A more complete set of results from CSFII 1985 is provided.

[The information follows:]

## CSFII 1985 - Results

Foods

Compared with 8 years earlier, women in 1985 consumed more skim and lowfat milk; carbonated soft drinks; mixtures that are mainly meat, poultry, and fish; and grain products. They reported consuming less whole milk, less meat, and fewer eggs. Generally, higher income and more educated women led in these food consumption changes.

Mean intakes by 1- to 5-year-old children showed some of the same differences between 1977 and 1985 as their mothers. They consumed more skim and lowfat milk and less whole milk. They ate more grain products and less meat and eggs. But some differences suggest that women may have more concern for children's diets than they do for their own. These young children ate 30 percent more vegetables and fruits in 1985 than in 1977, while their mothers showed no increase. And the children drank less carbonated soft drinks in 1985, while their mothers drank more.

Results from a study at the University of North Carolina using CSFII data show that women moved to lower fat selections within food groups rather consistently between 1977 and 1985. Investigators sorted foods in each of several food groups into higher and lower fat items and looked at the change in consumption of these items. In each group--milk, lunchmeat, fish, beef/pork, and poultry--the intakes of the lower fat items increased and intakes of the higher fat items decreased.

Although high-income women made greater shifts away from whole milk and high-fat beef products than low-income women, they got extra fat from eating more cheese and cream desserts, rich baked goods, and table fats and salad dressings. Consequently, intakes as a percentage of calories from fat by high-income women were similar to those of low-income women.

Comparisons of percentages of women and children having foods from the meat, milk, and grain products groups by region are similar. Slightly higher percentages of women in the West had legumes, some kinds of vegetables, and fruits.

Women from lower-income households ate less food from the milk and vegetable-fruit groups and more from the grain group than women from higher-income households.

Meat, poultry, fish intakes were alike across the three incomes, reversing a decades-old trend for high-income people to eat more meat than low-income people.

Nutrients

The distributions of 4-day intakes suggest that folacin, iron, zinc, vitamin B-6, magnesium, and calcium pose the greatest dietary problems. More than 80 percent of the women did not achieve RDA levels for these nutrients. Of greater concern is that over 50 percent had 4-day intakes that were below 70 percent of RDA.

Most of the children studied, especially among those 1 to 3 years old, failed to meet RDA for iron, zinc, and calcium. Many 4- to 5-year-olds had intakes below the RDA for these minerals and for vitamin B-6, magnesium, and folacin as well.

More high-income women than low-income women met the RDA for some nutrients. But regardless of income, few women met the RDA for calcium, iron, zinc, folacin, magnesium, and vitamin B-6.

These levels do not mean that severe nutrient deficiencies necessarily exist. RDA are set high intentionally to cover requirements of almost everyone in a given sex-age group. Even so, these nutrient intake levels for women of child-bearing age and their young children indicate that guidance and food assistance programs should continue to stress the importance of consuming a varied diet and provide special information about good sources of these nutrients.

About 37 percent of the calories in women's diets came from fat. This is above the 30 to 35 percent most authorities suggest, but below the 40 percent or more quoted from our earlier surveys. The mean percentage of calories from fat varies little by income.

Only 12 percent of the women had fat intakes over 4 days that furnished less than 30 percent of calories--the amount suggested by some authorities such as the National Cancer Institute and the American Heart Association (AHA). And 33 percent had diets with fat providing less than 35 percent of calories--the level mentioned by the Food and Nutrition Board. Only 10 percent had diets with saturated fat below the 10 percent of calories that the AHA suggests.

Consumption of 300 milligrams or less of cholesterol, as suggested by the National Heart, Lung, and Blood Institute, was achieved in 62 percent of the women's 4-day diets.

The women with lower fat and lower cholesterol diets had lower mean intakes of calcium, iron, and zinc than other women had. This does not mean that nutritious diets with fat at less than 30 percent of calories cannot be planned, but it cautions us that guidance on how to reduce dietary fat must also emphasize getting needed nutrients. Otherwise, as with these women, nutrient levels may be adversely affected. It makes us wonder about guidance that suggests that meat, with its highly available iron and zinc, is an undesirable food.

With respect to sodium, 86 percent of women had intakes of less than 3.3 grams per day, which was the top of the range suggested for adults by the Food and Nutrition Board in 1980. The sodium data from the survey do not include sodium in salt added at the table.

Measures of dietary fiber are not as accurate as measures of most vitamins and minerals because of food composition data base is at an earlier stage of development. The National Cancer Institute suggest consuming 20 grams or more of dietary fiber per day. Estimates indicate that only 5 percent of the women consumed this much.

About 6 out of every 10 women and children took supplements regularly or every so often in 1985. This is an increase from 4 out of 10 women and less than 5 out of 10 children in 1977.

## Eating Patterns

Snacking increased between 1977 and 1985. In 1977, about 60 percent of the women and children reported snacking on the survey day. In 1985, about 80 percent did so. Essentially all women and children snacked at least once over the 4 days in 1985. Snacks were important energy and nutrient providers, especially for the young children. Snacks furnished 19 percent of the energy and 9 to 23 percent of individual nutrients for children over the 4 days.

Eating away from home also increased between 1977 and 1985. The proportion of women eating out increased from 45 percent in spring 1977 to 57 percent in spring 1985. Over 4 days in 1985, 88 percent of the women and 79 percent of the children ate out at least once.

The proportion of total intake that women ate away from home differed among food groups. Women consumed over 40 percent of their alcoholic beverages and soft drinks and 30 percent of their meat, poultry, and fish away from home. They had the smallest proportion of their milk and milk products away from home.

Food eaten away from home was an important contributor of women's food energy and nutrients. The proportions of energy-providing nutrients--fat, carbohydrate, and protein--were a little higher than those of most minerals and vitamins. Young children's food consumed away from home provided 19 percent of their energy intake and 13 to 17 percent of their vitamin and mineral intakes.

Although almost all women and children reported eating breakfast at least once during the 4 days in 1985, only 53 percent of the women and 85 percent of the children had breakfast on each of the 4 days.

The nutrient contributions of children's breakfasts is substantial. Although breakfasts over the 4 days accounted for only 21 percent of calories and 17 percent of fat, they provided 30 percent or more of many important nutrients.

Question: What comparisons can be made between the Nationwide Food Consumption Survey and the Continuing Survey?

Answer: There are comparisons that can be made between the Nationwide Food Consumption Survey and the Continuing Survey of Food Intakes by Individuals that started April 1 of this year. Both surveys cover all sex/age groups for both the all-income and low-income samples. Since the 1985 and 1986 CSFII covered only women 19-50 years of age and their children 1-5 years of age, comparisons can only be made for those age groups.

## COORDINATION BETWEEN HNIS AND DHHS

Question: How well is coordination with the Department of Health and Human Services working?

Answer: Coordination between the two Departments continues to function in a progressive way. Through joint working groups, set up by the two Departmerts, considerable progress has been make in several areas: survey questionnaires have been changed to include, when possible, identical questions; the same food codes and nutrient data base are being utilized; and improvements in data reporting have been put in place, including the same age groupings and similar documentation formats for both printed reports and data tapes.

DHHS and USDA have established the Interagency Committee for Nutrition Monitoring (ICNM) chaired by the Assistant Secretary for Health, DHHS, and the Assistant Secretary for Food and Consumer Services, USDA. This is a parallel group to the Interagency Committee for Human Nutrition Research (IHNR). The ICNM has representatives from each of the USDA and DHHS agencies involved in monitoring activities as well as representatives from the Department of Defense, the Department of Commerce, the Department of Labor, and the Veterans Administration.

The Operational Plan submitted in 1987 has several goals. The coordination goal points out two important objectives--improved timeliness and coverage of high-risk individuals. USDA has designed the Continuing Survey of Food Intakes by Individuals (CSFII) with these objectives in mind. This survey was initiated in 1985. We have completed two years of data collection from specific high-risk groups--women 19-50 years of age and their children 1-5 years of age, including a separate low-income sample as mandated by the 1985 Farm Bill. The first results of the 1985 CSFII were released six months after data collection was completed and publication of all reports from the 1985 and 1986 survey is now complete.

A second goal of the 1987 Operational Plan was to improve information dissemination and exchange. The Departments have implemented a reporting system that integrates the results of the monitoring system components into common reports. The first report to Congress on the nutritional status of the population was made in 1986 by a Federal advisory committee--Joint Nutrition Monitoring Evaluation Committee--jointly sponsored by USDA and DHHS. A second report is nearing completion. The report will include an update on the dietary and nutritional status of the U.S. population based on survey data released since publication of the first report. It will also include an in depth analysis on nutritional factors affecting cardiovascular disease and iron nutriture. The Life Sciences Research Office (LSRO) of the Federation of American Societies for Experimental Biology has prepared the scientific evaluation and interpretation of NNMS data. An ad hoc Expert Panel on Nutrition Monitoring, composed of persons outside the Government who represent a variety of disciplines, including agricultural economics, nutrition, behavioral science, epidemiology, public health, and statistics, was selected by LSRO.

Question: Why didn't the comprehensive coordinated system begin in 1987 as your agencies promised it would?

Answer: The reason the two surveys--the Nationwide Food Consumption Survey (NFCS) and the National Health an Nutrition Examination Survey (NHANES)--did not begin as stated was that DHHS did not receive funding for NHANES to start in 1987 as planned. NHANES was initiated in August 1988.

Question: Why has no new target date been set?

Answer: A new target date was set with the initiation of NHANES III, which began in the summer of 1988, and the reinitiation of the Continuing Survey of Food Intakes by Individuals that began April 1, 1989.

## DIETARY GUIDELINES

Question: What is the status of the current Dietary Guidelines Committee?

Answer: The USDA's Assistant Secretary for Food and Consumer Services and the Department of Health and Human Services' Assistant Secretary for Health have signed a Memorandum of Understanding regarding the revision of the Dietary Guidelines for Americans. A Federal Advisory Committee has been jointly established by USDA and DHHS to examine the 1985 edition of the Dietary Guidelines in light of new scientific evidence to determine if a change in any of the seven Dietary Guidelines or the text describing them is necessary. The Committee will report their recommendations to the Secretaries of the Departments. It is the role of the Secretaries to edit and publish, in a timely manner, a revised edition of the Dietary Guidelines based on the Committee's recommendation.

The Committee members have been selected. The Departments are jointly maintaining the Executive Secretariat, with one individual designated to work with the Committee from each Department. The first meeting is scheduled for April 5 and 6 at the U.S. Department of Agriculture. The meeting was announced in the Federal Register and is open to the public. The same procedure will be followed for subsequent meetings.

Question: Who are the members appointed to that Committee?

Answer: Members of the Committee are: Malden C. Nesheim, Ph.D., Cornell University, Ithaca, N.Y., chairman; Lewis A. Barness, M.D., University of Wisconsin, Madison, WI; Peggy R. Borum, Ph.D., University of Florida, Gainesville, FL; C. Wayne Callaway, M.D., George Washington University, Washington, D.C.; John C. LaRosa, M.D., George Washington University, Washington, D.C.; Charles S. Leiber, M.D., Mt. Sinai School of Medicine, Bronx, NY; John A. Milner, Ph.D., University of Illinois, Urbana, IL; Rebecca Mullis, Ph.D., University of Minnesota, Minneapolis, MN; Barbara Schneeman, Ph.D., University of California, Davis, CA.

Question: When will the current evaluation of the 1985 edition of this document be completed and available?

Answer: The newly established Dietary Guidelines Advisory Committee is having its first meeting April 5 and 6, 1989. If the Committee decides that no change in any of the seven Dietary Guidelines or the text describing them is necessary, the Committee will so inform the Secretaries of the Departments. This action will terminate the Committee. If the Committee decides that change in the Guidelines is warranted, the Committee will continue to meet as necessary to report to the Secretaries their recommended revisions of the Dietary Guidelines and the rationale for these revisions. It is anticipated that the Committee will meet 2-3 times per year and that they will complete their work within 2 years.

Once the Committee has reported to the Secretaries, it is the responsibility of the Secretaries to edit and publish, in a timely manner, a revised edition of the Dietary Guidelines.

Question: What portion of the HNIS budget is spent on dietary guidelines?

Answer: The Nutrition Education Division of the Human Nutrition Information Service is involved in establishing the policy basis for the Dietary Guidelines, assessing the American diet in relation to these Guidelines, assessing, through qualitative research, the best way to communicate dietary guidance messages to consumers, and in developing the principles of food selection and preparation needed to help Americans improve their diets.

In 1988 the total HNIS budget was $8.4 million with $1.2 million or 14 percent directed to nutrition education activities. A major portion of the HNIS budget is expended on the conduct of USDA's system of Nationwide Food Consumption Surveys. This information is essential to the development of realistic dietary guidance.

## CHILD NUTRITION PROGRAMS

Question: President Bush's budget differs from President Reagan's budget in that it does not eliminate school lunch and child care food program subsidies to families with incomes above 185 percent of poverty ($21,000 for a family of four). Can you explain the reasons for restoring this subsidy for middle income children?

Answer: In Building a Better America, President Bush provided a broad outline of his plans for the budget. This included the principle that no reductions would be proposed in means tested entitlement programs.

Question: Is the Department aware of how many of these children live in single parent households?

Answer: Based on the Department's August 1988 study of the Child Care Food Program, 23.3 percent of children in family day care homes are from single parent households, compared to 56.4 percent of children in child care centers. This information reflects the status of children from all income groups as the study did not present the information for those above and below 185 percent of poverty.

Question: What is the rate of the reduced price that middle-income children currently pay for meals under child nutrition programs?

Answer: The maximum charge for a reduced price lunch in the National School Lunch Program is currently established by law at 40 cents. The maximum charge for a breakfast is 30 cents. Individual school food authorities (SFAs) may charge less. Agency studies indicate, however, that SFAs, for the most part, are charging the maximum.

TEMPORARY EMERGENCY FOOD ASSISTANCE PROGRAM

Question: The Bush budget eliminates $50 million used by local and non-profit agencies for the storage and distribution of commodities under the Temporary Emergency food Assistance Program. You state that the decline in the volume of commodities is the principle justification for this reduction.

Taking into consideration authorized purchases under the Hunger Prevention Act, how will the level of commodities to be distributed in 1990 compare to those distributed over the past four years?

Answer: It is too early to determine the level of commodities that will be available in 1990. Listed below are the levels for the last four years:

| | |
|---|---|
| Fiscal Year 1986 | 948 million pounds |
| Fiscal Year 1987 | 1,015 million pounds |
| Fiscal Year 1988 | 694 million pounds |
| Fiscal Year 1989 | 433 million pounds |

Question: How can you reconcile the elimination of these funds with President Bush's stated priority for combatting homelessness and meeting special obligations of the poor?

Answer: This proposal does not at all diminish the priorities of combating homelessness and meeting special obligations to the poor.

Throughout the full Federal budget, I believe, the priority to combat homeless and meet special obligations is clear.

The $50 million for TEFAP administration funds is proposed for elimination for a number of reasons. First, the Federal Government pays for the entire food cost of this program, which has distributed well over 5 billion pounds of food worth over $5 billion since the program's inception. This includes the administrative costs of transportation and delivery to the States. It should be the responsibility of the States and localities in charge of the program to provide the additional administrative support of local distribution. This desire for cost sharing with States and localities does not conflict with the good the program does in providing food to low-income Americans.

Second, since agricultural support policy, particularly for dairy products, has successfully reduced the surplus commodities available for distribution, the need for $50 million is questionable. That amount was designed for a program that distributed about one billion pounds of food each year. We are now distributing about 430 million pounds of food per year, including the food purchased through the Hunger Prevention Act. That is about 60 percent less than when the program was at its peak.

Finally, I would like to point out, that although TEFAP serves millions of low-income Americans, less than one percent of the participants are homeless, based on information from the Department's 1987 report on the characteristics of TEFAP participants.

## NUTRITION EDUCATION AND TRAINING PROGRAM (NET)

Question: The budget proposes to eliminate funding for training of school food service personnel at a time when many are concerned that more emphasis needs to be placed on dietary standards and meal quality in child nutrition programs. Have Nutrition Education and Training Program funds been utilized effectively?

Answer: There have been no comprehensive assessments of the Nutrition Education and Training Program so the results of the program have not been measured on a national scale in terms of changes in knowledge, eating practices or nutrition attitudes. Some localized assessments have suggested positive results.

The Department supports reauthorization for the Nutrition Education and Training Program. Whether or not this program will be considered a priority to receive Federal funding in Fiscal Year 1990 will be determined through the budget negotiation process involving both the Executive Branch and the Congress. Certainly this is a time when more emphasis is being placed on dietary standards and meal quality in the Child Nutrition Programs and the Department supports this emphasis.

Question: On what basis are NET funds distributed to the states?

Answer: The Child Nutrition Act of 1966 requires that the latest available enrollment data from the U.S. Department of Education (ED) be used in determining the allocations to States. For public schools

ED data from the National Center for Education Statistics (NCES) are used. For private schools data come from NCES statistics compiled from several sources. Current data are not available nationally for the following categories: non-residential child care centers, public residential child care institutions and private residential child care institutions. We use the available reports compiled by ED, the U.S. Department of Agriculture and the U.S. Department of Health and Human Services for estimating the population to be served in these latter categories.

Question: If these funds are eliminated, how would nutrition education and training be achieved? Through what funding sources? At what institutions?

Answer: Directors of Child Nutrition Programs in the State Departments of Education who have the responsibility for administering the National School Lunch and Breakfast Programs have State supervisory staff who conduct ongoing training for local school food service personnel as a part of the technical assistance under Child Nutrition State Administrative Expense funds allocated by the U.S. Department of Agriculture.

It is likely that the level of State funding for nutrition education will vary considerably. However, State and local agencies have demonstrated an interest in nutrition education, and we believe that local activities previously funded by the NET Program will be continued. NET was initially intended to provide seed money for State nutrition education efforts. We can foresee some States combining nutrition education and expanded training activities with existing technical assistance as part of their administration of the Child Nutrition Programs.

State Departments of Education often work cooperatively with colleges and universities in planning courses and workshops in the areas of school food service management and nutrition education which local school food service employees are encouraged to attend. The State School Food Service Associations offer training workshops as a part of periodic statewide or regional meetings. NET Program legislation mandates coordination with other nutrition activities conducted by education, health and State Cooperative Extension Service agencies. In many States, activities developed cooperatively with other agencies will likely continue.

## COMMODITY SUPPLEMENTAL FOOD PROGRAM

Question: The budget proposes the combination of WIC and CSFP into a single program. What is the reasoning behind combining the two programs?

Answer: Both WIC and CSFP serve similar groups: pregnant, breastfeeding and postpartum women, infants and children. However, the cost structure and services provided under these two programs are different.

The budget proposed that States should have the flexibility to allocate caseload between these two programs and to choose appropriate benefits and services to be provided to their target population.

Combining the two programs allows States to target benefits to the neediest eligibles -- the women, infants and children for whom the programs were originally intended and who can benefit most from participation. This is consistent with existing policy directives which encourage State level decision-making and autonomy in grant programs.

Moreover, the States may be able to provide different configurations of benefits more appropriate to different categories of the target population. We feel that services provided to the WIC and CSFP eligible population can be improved by offering each State greater flexibility in assigning caseload between these two programs.

Question: Would seniors on CSFP continue to be served? Could seniors on waiting lists expect to be served under such a program? Would the new program allow for future senior caseload?

Answer: Seniors would continue to be served after the combination of WIC and CSFP. The proposal protects the current elderly portion of the program. Since there are unserved needy women, infants and children in almost all CSFP states, the long-standing priority to assist them first would continue. When a State has made reasonable efforts to assist priority groups, and there is no prospect for further growth, expansion to high priority elderly might be appropriate.

Question: If CSFP were retained as a separate program, the budget assumes a $12 million increase. What are the caseload assumptions that support this increase?

Answer: The budget request for Fiscal Year 1990 assumes that the elderly caseload in CSFP would be approximately 83,000 persons per month, and the women, infants and children caseload would be approximately 179,000 per month. The $12 million increase in the budget request assumes that there will be no carryover of funds from Fiscal Year 1989 to 1990.

Question: Are there fluctuations in the price of commodities that affect the funding level?

Answer: The budget request for CSFP was developed, in part, by using an inflation rate based on the Producer Price Index for school purchases to adjust the request. This index includes other purchases besides commodities. For Fiscal Year 1990, the projected inflation rate is 2.30 percent.

## SPECIAL SUPPLEMENTAL FOOD PROGRAM FOR WOMEN, INFANTS AND CHILDREN (WIC)

Question: Last year, the Inspector General's study on vendor fraud in the WIC program created quite a flurry of concern. Understanding that this study may not have been representative of WIC vendors nationwide, would you nevertheless please explain what initiatives have been undertaken to address vendor fraud generally and in response to charges made by the Inspector General?

Answer: In Fiscal Year 1989, we plan to review WIC program food delivery regulations in their entirety for various changes that would strengthen and improve vendor management. Some of the proposed changes include: requiring mandatory periodic training of all vendors; establishing national parameters for vendor disqualification periods for specified violations; and requiring that each State agency with over 50 authorized vendors have a full time vendor manager. In addition to strengthening Program regulations, we will also be tracking the outcome of management evaluations conducted at the State and local agency level to determine the types and frequency of problems occurring and to ensure timely corrective action.

In addition, we are proposing that the new regulations incorporate a major initiative entitled Vendor Abuse Monitoring Profile. The profile is an annual State agency reporting instrument where, for each vendor investigated, the State agency (1) identifies criteria for detecting high risk vendors, (2) reports any abuse detected through the use of compliance investigations and (3) describes action taken against abusive vendors.

Moreover, we are undertaking a demonstration project in Illinois which will essentially bring competitive market forces into play by requiring vendors to compete for WIC business based upon prices offered to the Program. The project's goal is to reduce the average food cost in selected geographical areas in the State. We are hopeful that this project will prove to be successful in reducing Program costs.

Lastly, as almost all FSP vendors also participate in WIC, there are benefits to be derived through greater WIC/FSP coordination. We have issued a WIC/FSP Agreement that will foster improved coordination and cooperation between WIC State agencies and the FNS compliance branch, field offices, and regional offices overseeing the FSP. The Agreement and accompanying instruction establishes procedures and timeframes for the exchange of information on vendor disqualifications. As proposed regulations will require both WIC State agencies and FNS FSP authorities to disqualify vendors who violate either Program, the Agreement would facilitate this process.

## WIC PROGRAM STUDIES

Question: The 1990 budget recommends an increase of $2 million for a longitudinal study of the effects of WIC program participation on growth, hematologic status and cognition of children. Will any on-going studies be completed by the end of this fiscal year? Would these help off-set the costs of the longitudinal study or are other studies planned in their place?

Answer: While we do expect to complete some on-going studies this year, the amount in the 1989 budget that they represent is small in part because they are in the last phases of their operation. For 1990 most of the research funds needed will support Congressionally mandated research--the child impact study, the WIC-Medicaid Cost Benefit Analysis, The Farmer's Market Coupon Demonstration Projects Evaluation, and the Biennial Participant Characteristics report which will cover 1990. The budget request for a higher authorization limit for research funds was made because of the strong interest by the Congress in WIC studies.

Question: Would you please explain the methodology of the longitudinal study, including the size of the study population, the length of time participant development will be followed, and its other notable features?

Answer: The Food and Nutrition Service awarded a cooperative agreement in March 1988 to the University of North Carolina at Chapel Hill (UNC) to assess the feasibility of a longitudinal study of WIC's effects on children's physical and mental development, hematological status, dietary intake, and health care utilization. The final UNC report has been submitted and is under Departmental review. Once the report has been publicly released, we plan to promptly brief concerned Congressional staffs, legislative agencies such as the Congressional Research Service, and technically-oriented interests groups about the proposed study methodology (i.e., design, sample size, duration) as well as questions on implementation feasibility.

## FOOD STAMP PROGRAM

Question: To what factors do you attribute the slight decline in food stamp program participation projected in 1990?

Answer: The decline in Food Stamp Program participation projected in 1990 can be attributed to the anticipated decrease in the rate of unemployment from 5.35 percent in Fiscal Year 1989 to 5.20 percent in Fiscal Year 1990.

Question: What efforts is FNS undertaking in cooperation with the states, to simplify the food stamp application process? Do improved methods for application simplification affect participation in any significant manner?

Answer: In compliance with the Hunger Prevention Act, we will be working with the Department of Health and Human Services to establish a procedure for assisting State agencies that request such assistance to develop brief, simple, and readable combined applications for food stamps, AFDC and Medicaid. The Department already has a model application form which we believe is relatively simple. Finally, although no data on the relationship between the application process and participation levels are currently available, we do plan to undertake a study of the application process. Two or more projects will examine the application process, characteristics of applicants and eligible nonparticipants, reasons for denials and participation rates by different groups.

Question: Employment and training program matching funds are recommended for an increase of over $28 million in 1990. Does the employment and training program include any measure of the progress in long-term job placement?

Answer: We do not have this kind of information yet. However, we have contracted for a comprehensive study which will include the Employment and Training (E&T) Program's cost-effectiveness in increasing participants' employment and earnings. The study includes a one-year follow-up of E&T participants in order to assess some of the long-term effects of E&T. Participants are being interviewed 4, 8, and 12 months after entering into E&T. A final report will be submitted in early 1990.

Question: How successful is the employment and training effort in helping households achieve income self-sufficiency so that food stamps are no longer needed?

Answer: The Food Stamp Employment and Training Program--E&T--served just over one million food stamp recipients in Fiscal Year 1988. States plan to provide nearly 1.5 million recipients with E&T services in Fiscal Year 1989.

The U.S. Department of Agriculture has been conducting a congressionally mandated evaluation which will help us better assess to what extent E&T helps people become self-sufficient. The first part of the evaluation examined E&T implementation and was submitted to Congress in December 1988. The second part of the evaluation will look at the impact of E&T on participant's employment, earnings, and receipt of welfare. It will be submitted to Congress in early 1990.

## FOOD PROGRAM MANAGEMENT

Question: The budget proposes to increase program management staff at FNS by 50 staff years in 1990. Please detail for the Committee the positions and functions of these new staff.

Answer: The additional staff years will provide resources for the additional duties assigned to FNS by Congress, including monitoring the implementation of new laws, the requirements for new technology needed to fully use the Information Resources Management (IRM) investment to date, and the significant risk to integrity represented by expanding food assistance programs, and contracting administrative resources. The additional 50 staff years will be directed towards:

- Welfare Reform Initiatives (15 staff years) for implementing and evaluating the effectiveness of 25 welfare reform projects. They will include designing program parameters, establishing appropriate baselines, setting up separate accounting and reporting systems, monitoring performance, evaluating program effects and costs, and involving inter-governmental coordination and grantee oversight.

- Commodity Program Reform (15 staff years) for monitoring of State agency implementation of major regulatory changes required by Commodity legislation.

- Information Resources Management (10 staff years) to integrate program reporting systems, assist regions in implementing systems and to monitor contractor systems redesign projects. The fifth year of the Long Range IRM Plan includes software development and hardware for field offices in order to implement systems planned and designed during the previous four years.

- Integrated Financial Management (IFM) System (10 staff years) staff support to manage the new IFM System. The system is designed to automate operations that are not currently automated, improve existing systems that are near or past the end of their useful lives and improve systems that do not meet current government-wide financial requirements set by the Office of Management and Budget, General Accounting Office and Treasury.

Question: Please explain the purpose of program changes of over $4 million in the food stamp program, $2 million in child nutrition programs, and other FNS activities.

Answer: The Food Program Administration Fiscal Year 1990 appropriation request provides a total increase of $7,607,000, which is distributed by program as follows:

| Program | 1989 Estimated Amount | Increase | 1990 Estimated Amount |
|---|---|---|---|
| Child Nutrition | $28,855,000 | +2,460,000 | $31,315 000 |
| Special Milk | 161,000 | +13,000 | 174,000 |
| Supplemental Feeding | 7,298,000 | +623,000 | 7,921,000 |
| Food Stamp | 51,035,000 | +4,352,000 | 55,387,000 |
| Cash & Commodity Subsidies | 1,874,000 | +159,000 | 2,033,000 |
| Total | $89,223,000 | +7,607,000 | $96,830,000 |

The requested increases by program will fund the following:

- Personnel costs of $1,445,000 for increased operating costs and 50 additional staff years.
- Travel increases of $351,000 for inflation and costs associated with Welfare Reform initiatives and Commodity Program Reform.
- All other expenses of $1,901,000 for ongoing costs such as telecommunications costs, Telenet, automated data processing equipment maintenance and repair and mainframe processing charges.
- Contract support costs of $3,910,000 for redesign and implementation of Agency management systems (the Integrated Financial Management System, $1,025,000 and the Information Resources Management Long Range Plan, $2,885,000).

## THRIFTY FOOD PLAN

Question: To allow for food losses within the home, USDA adds 5 percent to the family food allowances calculated under the Thrifty Food Plan. What research supports USDA that this allowance is representative of actual food loss in low income households.

Answer: The Thrifty Food Plan specifies quantities of foods as they are brought into the kitchen. However, adjustments are made to calculate the nutritional value of these foods. The nutrient content of inedible portions of food, for example, bones, fruit pits, and peelings are not counted. In addition, it is assumed that consumers discard one-half of the drippings and trimmable fat from meat, poultry, and fish. The loss of vitamins in normal cooking is also taken into account.

In addition, to account for the loss of edible food during preparation, as plate waste, or due to spoilage, 5 percent is added to the dietary standards for energy--calories, protein, vitamins, minerals, and other dietary factors. The discard assumptions for the 1983 Thrifty Food Plan are the same as those used for the 1975 Plan. Although little is known about the amount of edible food households discard, we assume that in most households some edible food does not get eaten. A study conducted by the Human Nutrition Information Service supports the assumption that households with low food costs per person discard less edible food than households with higher food costs.

Question: Grocery prices vary between geographic regions, among urban, suburban, and rural stores within a region, and among types of stores. What evidence does USDA have to support the conclusion that low income households can actually buy the Thrifty Food Plan items for the price calculated by HNIS?

Answer: The Thrifty Food Plan, 1983 revision, is based on food consumption patterns and food costs of U.S. households as reported in USDA's system of Nationwide Food Consumption Surveys (NFCS). In the 1977-78 NFCS, about 4,400 low-income households across the country reported the prices paid for over 2,400 different foods. The prices paid reflect the geographic location of the grocery store or market, as well as the assortment of container sizes and brands and the quality of foods actually selected by these households. For Plan development, consumption patterns reported by survey respondents are changed as little as possible to provide a nutritious diet. Prices for foods reported by survey respondents are updated monthly by using the percentage change in the price index for the detailed food expenditure categories published by the Bureau of Labor Statistics. A demonstration project showed consumers and professionals in 7 cities across the United States how to purchase a nutritious diet at the Thrifty Food Plan cost.

Question: Does the Thrifty Food Plan's pricing assume food is purchased in large quantities to achieve price savings? If so what evidence does USDA have that food stamp families have the requisite storage facilities to keep such food in usable condition?

Answer: No, the Thrifty Food Plan's pricing does not assume food is purchased in large quantities to achieve price savings. Food costs used in the Thrifty Food Plan are based on the costs of over 2,400 different food items reported by 4,400 low-income households. The money value of foods includes the prices reported as paid by survey respondents and the estimated retail cost of all food the household used, whether the food was purchased with money, food stamps, or on credit. The food costs reflect the price levels in the stores and markets in which the survey respondents shop. Therefore, they reflect the geographic location of the household and they reflect the assortment of container sizes and brands and the quality of foods actually selected by the households. USDA's Nationwide Food

Consumption Survey has shown that households with low food costs (and incomes) are relatively good shoppers. They select foods that provide more nutrients per dollar spent than other households.

## SPECIAL SUPPLEMENTAL FOOD PROGRAM

Question: Does the Department believe that the 80/20 ratio for States nationwide represent the proper balance for providing food assistance, medical services and other administrative costs?

Answer: Prior to the era of food package cost containment initiatives such as infant formula rebates, the WIC program was able to operate effectively within the 80/20 food to administrative funding split. This split is applied at the national level, and the funds are then allocated to the State agencies according to funding formulas that consider previous funding and participation levels, Federal management initiatives, and the special needs of State agencies which are subject to year-to-year variation.

The large increases in participation resulting from infant formula rebates have caused us to reassess the 80/20 split. Our report, "Study of Funding for Nutrition Services and Program Administration in the WIC Program," will discuss the reassessment.

Question: What state and other data does the Department use to compute state ratio?

Answer: The 80/20 ratio represents the nationwide division of funds between food and administration. However, in allocating funds on a State-by-State basis the Department does not compute a ratio. Instead, administrative funds are awarded based on a cost per participant, salary differentials and targeting of benefits to persons at greatest nutritional risk. The cost per participant is established based on projected participation levels and the amount of administrative funds available. Salary differentials are determined based on wage data collected by the Bureau of Labor Statistics. Targeting data is obtained from reports submitted by each State agency.

Question: What verification measures does the Department use to test the reliability of data used in preparing its computations?

Answer: The Department is fully confident in the data used in the allocation formula. The salary data are supplied by the Bureau of Labor Statistics and represents a virtual census of private and public employment and wage data in the United States. The projected participation and targeting data are based directly on State-reported data. The WIC regulations provided for sanctions against State agencies for failure to comply with guidelines in reporting participation data.

## QUESTION SUBMITTED BY SENATOR HARKIN

### FEDERAL REVIEW OF SCHOOL CLAIMS

Question: Your budget request appears to include $6.4 million for the Federal Review System. Last year's conference report directed that half this money be used to conduct training programs for state and local food service authorities. Can you bring me up to date on this effort?

Answer: Discussions were held with representatives from American School Food Service Association and State agencies in November to develop ideas on effective training strategies. Based on the results of that meeting we are finalizing plans and completing the staff work preparatory to implementing 6 major training initiatives. These initiatives are:

Model systems - FNS is developing models of cash collection and meal counting systems that schools can adopt for their own use. These include minimum criteria for an acceptable system and self assessment tools and guidance.

State training - FNS is developing training for State reviewers on Federal review including mechanism and policies, minimum criteria for acceptable meal counting and claiming systems, and minimum requirements for corrective action.

Outreach to cooperating officials - We plan to contact and work with principals, school business officials, school board members and superintendents. Their association meetings and periodicals are being targeted as mechanisms to raise the visibility and priority of school lunch accountability issues.

Conferences - Plans are being finalized to hold a series of meetings (or to utilize existing meetings and conferences) to raise the visibility and priority of accountability issues and provide a forum for the exchange of information on accountability issues among State and local program operators.

Training module - A curriculum on meal accountability is being developed to be added to continuing education and certification programs for school food service personnel.

AccuClaim - FNS is adding resources to the AccuClaim effort to procure additional copies of existing AccuClaim materials for distribution and to develop new materials on AccuClaim.

Question: The conferees also directed that FNS provide a report to the appropriate committees on its plans for its independent verification system with no additional funds to be provided until the appropriate committees had evaluated the effectiveness of the project. Has FNS complied with this requirement, i.e., has FNS halted further implementation of this project pending Congressional approval and where is the report? Why are you requesting money for this project without appropriate committee approval?

Answer: As you know, last year's Appropriations conference report directed the Food and Nutrition Service to conduct reviews in a representative sample of school districts and report to the Committee on the first year's effort before the committee makes a decision on future funding for Federal review. Since the reviews did not begin until March, and will last through May 1989, it was necessary to formulate our appropriations request in advance of the reviews. However, we intend to provide the Committee with an interim report prior to the markup of the FNS appropriation. The interim report will provide broad, descriptive findings on the reviews completed by that time to give the Committee a sense of the results of the reviews. The final report should be available in the summer and will provide information and analysis on the full sample.

Question: Have you hired permanent staff for this program?

Answer: Permanent staff have been hired for Federal Review. Approximately 60 staff years have been devoted to this effort.

Question: Is it your intention to put Federal employees in State schools to audit a grant-in-aid program? Does the Federal Government audit other grant-in-aid programs or does this represent a new direction for the administration?

Answer: The Food and Nutrition Service (FNS) has used Federal employees to review operations of all Child Nutrition Programs at the local level for many years. A routine part of the evaluation has consisted of monitoring visits to local participating institutions.

The Federal review does not, therefore, represent a new direction for FNS but rather a continuation of a traditional activity. Based on the clear need for improved accountability in the National School Lunch Program and the fact that approximately 90 percent of all participating schools are not reviewed by State agencies in any given year, we believe that an increased presence which concentrates on meal accountability is both reasonable and warranted.

Question: Recently Secretary Yeutter, before the House Budget Committee seemed to endorse an expansion of the CASH and CLOC programs. Last year the Administration opposed continuation of CASH and CLOC even on a pilot basis. Could you clarify the Administration's current position and thinking on this issue?

Answer: This Administration is open to studying any alternatives that would improve our delivery of food assistance to the Child Nutrition Programs. The alternatives that are developed, however, would need to address the following concerns that were raised by the Department's four-year study of the CLOC option:

- CLOC and CASH pilot sites procured less food per dollar spent than does USDA in making its commodity purchases.
- Rural recipients would be hardest hit by conversion to CLOC because competition for their business tends to be less and transportation costs to them are higher. Currently, the commodity program protects rural areas to a large extent because USDA commodity costs are averaged on a nation-wide basis.

- The efficiency of operation of other commodity programs would likely be effected because of current "economies of scale."
- Also, if the present surplus removal and commodity distribution system were eliminated, our ability to respond to food needs in times of natural disaster would be seriously impaired.

### WIC PROGRAM

Question: The Bush/Quayle campaign called for an increase in WIC funding. How much of an increase in real terms does this budget proposal request?

Answer: WIC is included among the programs in the discretionary category subject to negotiation. As cited in the budget presented in "Building a Better America" funding for WIC could be increased provided that overall funding for remaining programs meets the budget target.

The budget request is for $1,961 million. This budget level would support the current services level of 3.7 million participants per month, including the effects of inflation from 1989 to 1990. Beyond this, cost containment activities during Fiscal Year 1990, including infant formula rebates, will allow an increase of about 700,000 in average monthly participation.

The budget presentation incorporates the lower average food package costs expected from the change in caseload composition due to infant formula rebates.

- There will be a change in caseload composition because WIC will be reaching virtually all of the eligible infants, therefore participation increases will come from the pool of eligible children.
- The average food package cost will decline because the child's food package costs less than other types of participants.
- The new average food package cost will be $35.25 per participant per month, about $0.55 less than the inflated previous year's cost.

We expect WIC to reach almost all of the approximately 1.2 million fully eligible infants during Fiscal Year 1990. Also by Fiscal Year 1990, we expect virtually all States to take advantage of infant formula rebates. This will provide over $300 million to be used for increased participation.

Question: Have you requested money for the WIC farmers' market program? Why or why not?

Answer: The budget did not request funding for the Farmers' Market Demonstration projects. Currently the demonstrations are funded from the WIC food grant. As you know, the Department has opposed the use of food funds for these projects when the money could be used to add additional almost 5,000 participants to the program. Project proposals are currently under review and about $2 million will be used from the 1989 appropriation. A full evaluation of these projects would appear to be warranted before additional funding is considered.

## FOOD STAMP PROGRAM - WELFARE REFORM INITIATIVES

Question: Last year the FNS administrator wrote to the Nutrition Subcommittee chairman stating that no cash-outs of food stamp programs would take place without first providing an evaluation of the proposal and checking with the Subcommittee. Has this agreement been adhered to and do you intend to continue this agreement?

Answer: We have made every effort to keep members of the Committee informed of our activities in response to State initiated proposals for welfare reform demonstration projects, including those requesting waivers to cash-out food stamp benefits. In addition to the briefing given to you and your staff last summer, we provided the Committee written summaries of the proposals and our criteria for approval in November and December. An update on current status is in progress.

Any proposal to test cash-out must meet certain criteria:

- If part of a comprehensive welfare reform project, cash-out should be clearly related to the objectives of the larger project. In keeping with current demonstration authority, cash-out should be clearly related to improving program administration and effectiveness.

- The demonstration should substantially enhance existing knowledge.

- The demonstration must provide for a sound evaluation. Effects of cash-out to be examined would include: (1) participation rates; (2) household expenditures; (3) household food consumption; (4) individual dietary intake; (5) administrative costs and (6) recipient, administrator and public opinion.

We are proceeding with considerable caution as we review State requests to cash-out. We will continue to keep you and the Committee informed.

## TEMPORARY EMERGENCY FOOD ASSISTANCE PROGRAM

Question: You do not request continued funding of TEFAP administrative expenses. Can you explain the logic behind this decision?

Answer: First, the Federal government has, over the life of the program, provided over 5 billion pounds of food worth over $5 billion. This represents 100 percent funding of the cost of food for the program, including the transportation and distribution expenses to get the food to the States. It is appropriate for States to bear some of the costs of running the program.

Second, because agriculture support policies have successfully reduced the amount of Federal purchases, particularly in the dairy sector, the program is distributing a much reduced level of food. In this situation it does not seem necessary to provide administrative funds in amounts that were used when the program was at its peak level.

Question: What percentage of last year's commodities distributed through TEFAP do you anticipate for fiscal 1990?

Answer: During Fiscal Year 1988, 692 million pounds of commodities were distributed through the Temporary Emergency Food Assistance Program. The current projection for Fiscal Year 1989 indicates that 296 million pounds of the traditional commodities will be distributed, plus 138 million pounds distributed under the Hunger Prevention Act, for a total of 434 million pounds. This would be 62.7 percent of the Fiscal Year 1988 level. The funding level for Fiscal Year 1990 has not yet been determined and is dependent on: (1) the level of surpluses that exist going into Fiscal Year 1990; and (2) the appropriation of funds authorized by the Hunger Prevention Act.

Question: What would be an appropriate funding level for administrative expenses at the anticipated level of reduced commodities?

Answer: Administrative costs for intra-state commodity distribution should be borne by the states and localities since the Federal government pays the full cost of the benefit provided.

## CHILD NUTRITION PROGRAMS

Question: The Bush budget restores funding for the Child Nutrition Programs, particularly the school lunch program that the Reagan budget sought to reduce. Please explain the rationale for the change. How important is a nutritious lunch and/or breakfast to a student's academic achievement? Does this mean that the NET Program will be funded at last year's levels as well? Why not?

Answer: Funds were restored to the budget request to the National School Lunch, National School Breakfast, and Child Care Food Programs for the proposal to eliminate subsidies for children from households with incomes over 185 percent of poverty. The rationale for this change was provided in Building a Better America, in which President Bush gave a broad outline of his budget plans. These included the principle that no reductions would be proposed in means tested entitlement programs.

We support reauthorization of the NET Program, but the funding level should be open to negotiation. The Reagan budget proposal was not to fund the program because the Federal Government has provided seed money that should now be replaced by State funds. However, we will work together with the Congress to make responsible spending choices for the Federal Budget.

## ANTI-DEFICIENCY ACT VIOLATIONS

Question: Has Food and Consumer Services encountered problems in the last several years with violations of the Anti-Deficiency Act? Please explain any such violations? Does this budget seek to avoid such problems and if so how?

Answer: In April of 1987 the General Accounting Office issued a report alleging that a technical violation of the Anti-deficiency Act had occurred in the budgeting for the Child Nutrition account from 1983 through 1986. The Department of Agriculture disagreed with the GAO finding and asserted that USDA acted properly to pay legitimate claims for meals served in schools. The system used for making payments was started in 1980 pursuant to congressional authority.

In 1987 the Congress provided the Food and Nutrition Service with a supplemental appropriation of $167 million and eliminated the funding shortfall in the Child Nutrition Program. The budget you are considering now fully funds the estimated program needs for Fiscal Year 1990.

## FOOD BANKS

Question: Last year the Food Bank of Iowa received permission to participate in an experimental program that would expand the variety of commodities available to the food bank. The Iowa Food Bank recently informed me that it had not received many of these commodities relative to its needs. Can you tell us what the status of this program is and what level of commodities are being made available to these participating food banks?

Answer: P.L. 100-237, the Commodity Reform Act of 1987 directed that the USDA establish a two-year demonstration project on the use of Section 32 foods in food banks. Three pilot sites were selected in Iowa, Missouri and Arizona. Section 32 commodities designated as bonus items are the only source of food available for donation to the pilot sites. During the first six months of the demonstration (which commenced in November 1988) 4 bonus items were available in the following quantities:

| | |
|---|---|
| Canned beef: | 828,414 pounds |
| Apple juice: | 716,300 pounds |
| Egg mix: | 144,000 pounds |
| Prunes: | 288,000 pounds |

These amounts were prorated to the 3 sites based on reported caseload, and the sites were advised that these foods were being provided for the first 6 months of operation.

Recently, we assessed the bonus situation for the next 6-month period. Currently, the only Section 32 commodity designated as a bonus is prunes. We are in the process of preparing letters to the sites asking if they wish to accept this donation. Since the designation of Section 32 items as bonus is dependent on market conditions at any given time, other commodities may become available to the pilot sites as the year progresses.

## ADULT DAY CARE

Question: I am interested in the adult day care program and the progress in the USDA has made in issuing regulations relative to their eligibility for federal meal programs. Please provide us a brief status report on this effort.

Answer: As you know, the Child Care Food Program in Section 17 of the National School Lunch Act was amended by the 100th Congress such that "adult day care centers shall be considered eligible institutions for reimbursement for meals or supplements served to persons 60 years of age or older or to chronically impaired disabled persons." The Fiscal Year 1989 Conference Report, published in October 1988, provided additional guidance for the adult day care provisions of the Act, which were incorporated in interim regulations in December 1988.

In point of fact the program is brand new. While we understand that State agencies have received a number of applications from adult day care centers, the number of projects which have been approved and are actually participating is very small.

However, I must point out that this program has a potential for substantial growth under current law, especially if State licensing practices expand eligibility to senior centers. According to the National Council on Aging, there are 9,000 to 11,000 senior centers in operation today and more will undoubtedly be created in the future. This trend may in fact be strengthened by the availability of Federal meal programs. We cannot predict how many centers will actually apply or qualify for the program nor do we know how many individuals will qualify for Federal meal subsidies. It is at least possible that the program could grow very substantially beyond our current projections. In any event, we will be monitoring this situation very closely and will keep the appropriate committees of the Congress informed as events proceed.

## WIC PROGRAM

Question: The Commodity Distribution Reform Act, pursuant to amendments offered by me in Subcommittee, authorized states to utilize WIC cost containment savings to expand program participation. What have been the savings due to this program to date? What are the projected savings for FY 90? What are the impediments to states seeking concessional pricing from manufacturers at this time? What has been done by states and what has been done to encourage states to seek concessional pricing for other commodities in the WIC program? What is the additional program participation that can be achieved if all states implement concessional pricing schemes?

Answer: In Fiscal Year 1988, 14 WIC state agencies participated in rebate programs, receiving a total of $45 million in rebates from infant formula manufacturers. In Fiscal Year 1989, we project rebate savings of over $200 million, and for Fiscal Year 1990, rebate savings are projected to exceed $300 million. States have been able to overcome the impediments to achieving food package cost containments, although small state agencies do not have the scale of operations that attracts sizable rebates. At present, rebates are received only for infant formula, although States have been discussing cereals as the next likely WIC food item where rebates may be sought. FNS has assisted States in sharing information on how to develop a rebate system, and the funding formulas reward states for participation increases. We anticipate that all State Agencies will conduct cost containment activities during Fiscal Year 1990, including infant formula rebates, and these will allow an increase of about 700,000 in average monthly participation beyond the 3.7 million level that could otherwise be supported.

Question: Several years ago the National Association of WIC directors discussed with the Nutrition Subcommittee their interest in seeing the administrative cost component of the WIC program broken down into two parts: the health assessment part and the administrative cost part. The objective was to help facilitate more efficient and effective management of the current administrative cost component. Has the Department been involved in any discussions along these lines and if so what progress and/or proposals do you have for us?

Answer: The concept of separating the WIC administrative cost component into two parts stems from the larger concern over the adequacy of administrative funding for the program. Participation increases fostered by infant formula rebates have caused us to reevaluate the 80:20 split for food and administrative funding for WIC. Our report, "Study of Funding for Nutrition Services and Program Administration in the WIC Program", will discuss options for alleviating the administrative funding imbalance created by implementation of cost containments such as infant formula rebates, including the option of subdividing the administrative funding for the program.

Question: Has FNS done any studies on the effectiveness of the health assessment performed in the WIC program? Has FNS done any studies on the bioavailability of the various mineral and vitamin supplements included in WIC commodities? Would you provide me with copies of any such documents (studies, memos, etc.)?

Answer: The 1984 and 1988 WIC participant characteristics studies collected information of the nutritional risk assessments performed for WIC certification. Part of the analyses of these studies include a comparison of assigned risk for anthropometric and biochemical factors with the measures actually recorded for the participants to determine an imputed level of nutritional risk. A copy of the report on the 1984 study will be sent to your office. The data from the 1988 study are now being analyzed, and the report will be delivered to Congress upon its completion.

Studies on the bioavailability of nutrients are conducted by the USDA Agricultural Research Service rather than FNS. Issues on nutrient bioavailability are given consideration when the contents of the WIC food package are discussed.

## REVISED DIETARY GUIDELINES FOR AMERICANS

Questions: What is the status of the next revision to the Dietary Guidelines for Americans?

Answer: The USDA's Assistant Secretary for Food and Consumer Services and the Department of Health and Human Services' Assistant Secretary of Health have signed a Memorandum of Understanding regarding the revision of the Dietary Guidelines for Americans. A Federal Advisory Committee has been jointly established by USDA and DHHS to examine the 1985 edition of the Dietary Guidelines in light of new scientific evidence to determine if a change in any of the seven Dietary Guidelines or the text describing them is necessary. The Committee will report their recommendations to the Secretaries of the Departments. It is the role of the Secretaries to edit and publish, in a timely manner, a revised edition of the Dietary Guidelines based on the Committee's recommendation.

The Committee members have been selected. The Departments are jointly maintaining the Executive Secretariat, with one individual designated to work with the committee from each Department. The first meeting is scheduled for April 5 and 6 at the U.S. Department of Agriculture. The meeting was announced in the Federal Register and is open to the public. The same procedure will be followed for subsequent meetings.

Question: When are these expected to be published?

Answer: The newly established Dietary Guidelines Advisory Committee is having its first meeting April 5 and 6, 1989. If the Committee decides that no change in any of the seven Dietary Guidelines or the text describing them is necessary, the Committee will so inform the Secretaries of the Departments. This action will terminate the Committee. If the Committee decides that change in the Guidelines is warranted, the Committee will continue to meet as necessary to report to the Secretaries their recommended revisions of the Dietary Guidelines and the rationale for these revisions. It is anticipated that the Committee will meet 2-3 times per year and that they will complete their work within 2 years.

Once the Committee has reported to the Secretaries, it is the responsibility of the Secretaries to edit and publish, in a timely manner, a revised edition of the Dietary Guidelines.

Question: Who sits on the Guidelines Committee and how is it funded?

Answer: Members of the Committee are: Malden C. Nesheim, Ph.D., Cornell University, Ithaca, N.Y., chairman; Lewis A. Barness, M.D., University of Wisconsin, Madison, WI; Peggy R. Borum, Ph.D., University of Florida, Gainesville, FL; C. Wayne Callaway, M.D., George Washington University, Washington, D.C.; John C. LaRosa, M.D., George Washington University, Washington, D.C.; Charles S. Leiber, M.D., Mt. Sinai School of Medicine, Bronx, NY; John A. Milner, Ph.D., University of Illinois, Urbana, IL; Rebecca Mullis, Ph.D., University of Minnesota, Minneapolis, MN; Barbara Schneeman, Ph.D. University of California, Davis, CA.

USDA will bear the cost of operating the Dietary Guidelines Advisory Committee. USDA will be responsible for maintaining the Advisory Committee account. Members shall serve without pay. Costs pertaining to travel and other expenses of members to attend meetings will be borne by USDA. Annual costs are estimated at $105,000 with 0.75 staff-year support. Costs related to publication of a revised edition of the Dietary Guidelines will be handled through a separate Memorandum of Understanding between USDA and DHHS.

Question: What kind of changes can we anticipate in the Dietary Guidelines?

Answer: Since the Committee has not yet had its first meeting, we cannot anticipate the final recommendations of the Committee regarding revision, if any, of the Dietary Guidelines. We can anticipate that the Committee members who are highly-qualified experts in the field of nutrition and related disciplines will bring to their task a wealth of knowledge on all aspects of the Dietary Guidelines. In addition, it is anticipated that the Committee will utilize the comprehensive reviews on the relationship between diet and disease published in the 1988 Surgeon General's Report on Nutrition and Health and the 1988 National Academy of Science report on Diet and Health.

Question: Will they be able to provide more quantitative information for consumers?

Answer: The purpose of the Dietary Guidelines is to provide the best advice, based on current scientific evidence, for a diet that will help Americans maintain and even improve their health. We cannot anticipate what the Committee's recommendations will be, but whatever recommendations they make are to be accompanied by the rationale for their recommendations. We anticipate that if the Committee were to recommend revision of the Dietary Guidelines to include more quantitative information on nutrients for example, limits on fat, cholesterol, sodium intake--and/or more quantitative information on food selection for example, a Food Guide--that they would do so based on their conclusion that the scientific basis for the recommendation was sufficiently strong and that the information was useful to the target audience--healthy Americans.

Question: Will FNS work to ensure that USDA nutrition programs follow the Dietary Guidelines?

Answer: Yes, in recent years FNS has done a good deal to assist State and local cooperating agencies to comply with the dietary guidelines as they relate to the intake of sugar, fat and sodium. For example, FNS this past year issued a revised recipe file for school lunch managers in 90,000 schools that incorporate reductions, where practicable, in the levels of sugar, fat and salt. Also, a review of all of the specifications for commodities provided by USDA is underway in an effort to reduce sugar, fat and salt wherever possible.

FNS has a good record of promoting practices that are consistent with the dietary guidelines. As you know, the dietary guidelines call for moderating rather than setting quantitative limits since there is currently insufficient scientific evidence and consensus within medical communities to support strict quantitative limits particularly for children. Certainly this is an area where scientific knowledge is evolving and there is always more that the Agency can do to help State and local cooperators moderate intakes of sugar, fat and sodium. FNS is continually looking for opportunities to make further improvements in this area. One area that comes to mind is looking at specifications for processed products, not only those purchased by the Department, but also specifications used by State and local cooperators in an effort to minimize sodium and fat intake.

FNS will continue to review all of the food assistance programs to identify improvements that could be made to promote the principles outlined in the dietary guidelines, particularly those that help State and local cooperators.

## QUESTIONS SUBMITTED BY SENATOR ADAMS

### FOOD SAFETY

Question: I know that there has been much concern recently about the effects on children of consuming apples or apple juice that have been treated with the pesticide known as alar. This concern has arisen particularly in regards to apple products served through school lunch programs. I have read stories of school systems that have stopped serving apple products to children, and have been concerned, because apples are such a good source of nutrition, and because apple products free of alar are available on the market. What is the USDA's position on whether it is currently safe for children to eat apples or apple products in school lunch programs?

Answer: The USDA policy issued jointly with the Environmental Protection Agency (EPA) and the Food and Drug Administration (FDA) is as follows: Apples are a nutritious food; there is no reason to stop eating apples or apple products. While the Government cannot assure that any food is absolutely free of risk, on the basis of current information we believe apples to be safe. We do not advocate the removal of apples or apple products from school lunch menus.

Question: What is USDA doing to educate school districts and parents about its position?

Answer: On March 15, 1989, the Food and Nutrition Service issued a memorandum, stating the Department's position, to the seven FNS regional offices. In the memorandum, regional offices were instructed to direct State agencies to provide this information to local school districts.

Further, the March 16, 1989 joint statement from the Food and Drug Administration, the Environmental Protection Agency and USDA was issued to the general public to further communicate this tri-agency position.

Question: What type of testing does USDA do on fruit products served in the school lunch program?

Answer: All USDA suppliers of processed apple products either do their own product testing or require certifications from growers that Alar is not used. It should be noted that EPA sets the standards for chemical tolerances, and FDA monitors compliance in commercial production channels. Since all commodities are purchased through regular commercial channels USDA relies on these two agencies to ensure chemicals are properly used.

Further, all commodities donated by the USDA must meet strict purchase specification requirements. USDA graders and inspectors monitor commodity processing to ensure high quality, wholesome products are purchased.

Question: In those cases where individual districts have stopped making apples available in school lunch programs, what can the USDA do to make sure that alar-free apple products are available to those districts?

Answer: It is the Department's position that apples are a safe nutritious food. Schools that wish to purchase apples and apple products that are absolutely Alar-free can stipulate that in their purchase specifications. Clearly it is an individual district's decision whether or not to serve apples.

Question: Is the USDA doing any testing of apples to ensure that those school districts concerned about alar have access to alar-free apples? What resources would be necessary to do such testing?

Answer: USDA has not done any testing. However, it did contact its suppliers of processed apple products. USDA suppliers either request a certification from growers that their apples have not been treated or do their own testing. As noted above, EPA sets the standard for chemical tolerance and FDA monitors compliance in commercial production channels.

## QUESTION SUBMITTED BY SENATOR KERREY

### RESIDUES ON FRUIT AND VEGETABLES PURCHASED FOR THE CHILD NUTRITION PROGRAMS

Question: With the recent publicity on the concerns over alar on apples, I have received numerous constituent calls expressing concern over food safety. What mechanisms does FNS have for verifying the safety of the food products purchased for the child nutrition programs?

What mechanisms does FNS have for communicating with the State and local agency's on concerns related to the food safety of products in the Child Nutrition Programs? If necessary, how would a recall of an unsafe product be carried out?

Answer: The mechanisms used by FNS to verify the safety of the food products purchased for the Child Nutrition Programs are the same as for all domestic donations. The commodities are produced to conform to either USDA specifications or Commercial Item Descriptions, and they are inspected by USDA inspectors prior to shipment to the States. USDA meat and poultry inspectors monitor animal wholesomeness and plant sanitation, and USDA graders at plants producing USDA commodities check for adherence to our specifications. Random lots of fruit and vegetable products are also inspected prior to shipment. All products can be reinspected after delivery if necessary.

In spite of all the safeguards, occasionally questions arise about the safety of products. USDA becomes aware of these suspect cases either through the routine commercial monitoring activities of the Federal Food and Drug Administration, USDA Inspection Services or through reports by recipients of the commodities.

As soon as USDA becomes aware of any suspect commodity, we immediately place a "hold" on the product to prohibit any further distribution and, if circumstances warrant, recall any product that may have left State warehouses. Inspectors are immediately sent to check out the problem and either release the commodity for program use or advise of some other disposition, such as sale for animal feed or disposal if necessary. We have an established "Alert" system to immediately notify all appropriate parties if there is a potential health hazard and States receiving USDA commodities are required to have similar emergency teams in place.

## CHILD NUTRITION/FEDERAL REVIEW SYSTEM

Question: Your testimony assures the Food and Nutrition Service has coordinated the new Child Nutrition Federal Review System with State Agencies to avoid duplication of effort with several other review activities. Rather than giving me a sense of assurance this statement causes me to wonder why a new system is being established if it is duplicative of other review activities. It sounds like we have a situation of the "auditors auditing the auditors auditing the auditors."

For $6.4 million plus some extra Federal administrative funds surely there is a better way to accomplish integrity in the Child Nutrition Programs than adding layers to the review process? What initiatives is FNS implementing to provide Federal assistance with training sessions for State employees and to provide technical assistance or "hands-on" help with State operations?

Answer: We strongly support continued funding of independent federal review of Child Nutrition Programs as an effective means of addressing the problem of inaccurate claiming practices as cited by numerous audits and studies of the programs.

Consistent with the Conference Report language, we are working very hard to develop a training and technical assistance program. Discussions were held with representatives from ASFSA and State Agencies in November to develop ideas on effective training strategies. Based on the results of that meeting we are finalizing plans and completing the staff work preparatory to implementing 6 major training initiatives.

## FOOD STAMP PROGRAM

Question: As a former Governor I have a special appreciation of burdensome Federal program requirements often laid on State agencies. In most cases the implementation of such requirements can only be accomplished if the Federal government puts its money where its mouth is.

States cannot be expected to keep absorbing the operating costs of mandated Federal programs.

Your statement says over 1 million food stamp recipients were involved in Employment and Training activities in Fiscal Year 1988. This is a very good announcement. Yet, the budget is proposing to reduce the funds available for States to continue offering Employment and Training services.

Your statement says the quality control incentive/sanction system has been at least partially responsible for the progress made in reducing error rates in food stamp eligibility and issuance determinations. This is a very good announcement. Yet, the budget is proposing to reduce the funds available for paying incentives to State agencies.

Although the Administration is touting its budget proposal to fully fund the "entitlement" programs for the needy, cuts in administrative funding are in reality cuts in services to clients. Eventually cuts in service will mean denial of benefits to which a client is entitled.

Would you explain the proposals and the rationale for the proposals in regard to the FSP administrative funding reductions? What analysis has been done to indicate State agencies will be able to absorb the funding reductions without reductions in service to the client or without increases in error rates?

Answer: Let me first emphasize that the Administration's budget provides for full funding of food stamp benefits. In fact, the basic level of food stamp assistance for a family will increase faster than inflation between Fiscal Years 1989 and 1990.

Funds for State administration of the Food Stamp Program would be subject to the flexible freeze. All accounts in this category would be determined through negotiations with Congress. Our proposals offer a starting point for consideration by the Congress.

We propose capping the Federal funds available for the 50-50 Federal-State matching funds for Employment and Training administration at $30 million. The cap will moderate future cost increases of this type while the Department completes the Congressionally-mandated evaluation of the cost-effectiveness of Employment and Training services. It is important to remember that this cap involves only one of three sources of Employment and Training funds. The source of the majority of Federal funding, the 100 percent unmatched grant, and the Federal reimbursement of 50 percent of participant expenses, would be unaffected.

Our other proposal to reduce Federal funding of State administrative expenditures has two components: a one-year spending freeze with subsequent year adjustments for inflation, and elimination of enhanced funding for fraud investigations and prosecutions and development of Automated Data Processing systems. State administrative costs have risen rapidly over this decade. Since Fiscal Year 1980, these costs have risen by 61 percent after adjusting for inflation while program participation has fallen by 11 percent. It is an appropriate measure at this time when State agencies have over 20 years of experience in administering the program. It should serve to spur the implementation of administrative efficiencies and streamlining by State agencies since the program administration requirements of the Food Stamp Act will remain in place.

This proposal does not change the incentives for improved State performance as measured by the Quality Control (QC) system. The Hunger Prevention Act of 1988 changed the QC system to make it easier for States to qualify for incentives. Work is progressing on ways to incorporate negative actions--denials--into this system to ensure that all aspects of payment accuracy are measured by the QC liability system. States with combined overpayment and underpayment error rates below 6 percent will qualify for incentive funds if their negative action error rate is less than the national average.

There are a number of reasons why the proposed curtailment of Federal funding of State agency administration should not result in either cuts in services to clients or increases in error rates.

First, the proposal is calling for a freeze in spending at a time when the demand for program services is continuing to decline. Food Stamp Program participation levels have declined since 1983 and are expected to continue decreasing slowly through the early 1990's.

Second, about 40 percent of the estimated Federal savings will be achieved through the elimination of enhanced funding for the development of automated systems and for anti-fraud functions. The higher match rate of 75 percent has been available as an incentive for these specialized activities for a number of years. The time has come to require States to assume responsibility for their share of these costs and to rely on other fiscal incentives such as State retention of 50 percent of collections of fraud claims against recipients to maintain program services.

Lastly, reductions in services to clients are highly unlikely because States will still be held accountable for maintaining performance levels through the QC system and Federal management evaluations.

## TEFAP AND COMMODITY DISTRIBUTION ADMINISTRATIVE FUNDING

Question: Reports continue to be issued and my Nebraska constituents continue to provide me with information documenting the increasing need for emergency food assistance. For example, during 1988, in Lancaster County, Nebraska 11,000 persons were served through the Food Bank of Lincoln. This is reported to be a 20% increase over the number served in 1987.

While I am pleased to see the Administration is requesting funding to continue the provision of food through food banks and soup kitchens to the needy and homeless, this food is of no use to anyone if funds are not available to operate the distribution network. Especially in rural areas of the State where transportation costs are high, federal financial assistance is needed to assure continuation of the food distribution assistance programs.

The FNS budget requests recognizes the need for administrative funding at the federal level to enhance the commodity distribution programs. Why would the States be any better able to absorb operating costs than FNS? The provision of funding to assure the continued distribution of food to needy persons is certainly a higher priority than Federal administrative enhancements.

What special factors could be added to the TEFAP administrative funding formula to take into consideration higher intrastate transportation costs in rural areas?

Answer: We propose to have the States and localities pay for the administrative costs of intra-state distribution because the Federal Government pays the vast majority of all program expenses in TEFAP including 100 percent of the food costs. Since the levels of distribution are substantially below the peak years of operation, it does not seem necessary to provide $50 million in administration for a program that is 40 percent of its former size.

The Federal administrative dollars that you refer to are needed for the Congressionally mandated requirements of the Commodity Distribution Amendments of 1987 and the Hunger Prevention Act of 1988. The Agency has absorbed significant amounts of additional responsibilities without staff or overhead increases based on those two laws, and in fact, since the beginning of the TEFAP program.

## TAX INCENTIVES FOR PRIVATE DONATIONS OF FOOD

Question: Reports from Nebraska indicate the "1,000 points of light are fading."

I understand some food companies in Nebraska which have been donating food to a local food bank have recently announced the withdrawal of the donations because they have decided to sell the food salvage instead. In one instance, nearly one-fifth of the total food distributed in 1988 is being withdrawn in 1989 because of this change in company policy.

Apparently the tax incentives offered for donations of food are not as attractive as the advantage of selling products for salvage. When products are sold for salvage cash is received immediately and there is no "risk" related to IRS questions on the value of the food donated.

Has your Agency received reports nationwide of such decreases in private company donations?

Answer: The U.S. Department of Agriculture has not received any direct reports of a nationwide decrease in private company donations. However, according to several sources, such as area food banks and corporate food organizations, there has been a nationwide decrease in food donations from food retailers and companies.

Question: What policy changes would you recommend to encourage the continuation of private donations?

Answer: We will work with food banks to improve USDA's distribution of surplus commodities. We do not believe that it is appropriate for USDA to be setting policy for private donations.

## HNIS NUTRITION MONITORING SURVEYS RURAL/URBAN BREAKDOWNS

Question: I have been told that contrary to popular assumptions about the good country cooking, rural residents especially low income rural residents have a more deficient nutrition profile than urban residents in terms of RDA intake levels.

For example, their consumption of fruits and vegetables is often lower than the consumption levels of urban residents particularly in the off growing seasons. In part, I think this is the result of less product availability due to isolation from major market centers and/or the prohibitive costs of fresh fruits and vegetables because of the higher transportation costs to the rural area.

Has HNIS done some analysis work to compare the food consumption patterns of low-income rural residents with low-income urban residents? What significant trends is HNIS aware of in terms of food consumption pattern of rural versus urban residents?

Answer: The Human Nutrition Information Service has analyzed data from the 1985 and 1986 Continuing Survey of Food Intakes by individuals to determine how the food consumption patterns of low-income women and children living in rural areas compare with those of low-income women and children living in metropolitan areas. Results show that for most nutrients, intakes by low-income rural women and children were similar to or higher than those by low-income metro women and children. This suggests that rural residents are, in fact, better off than their city counterparts. A narrative summary is provided below and summary tables will follow.

Nutrient intakes--For 8 of 15 nutrients examined, including vitamin A and ascorbic acid both rural and metro women had average nutrient intakes that were above the RDA. For food energy and seven nutrients, both rural and metro women had intakes below the RDA. In general, the nutrients below the RDA for the low-income women were also below the RDA for higher-income women in both urbanization categories. Average nutrient intakes by low-income children in both urbanization categories were above the RDA for food energy and 13 of 15 nutrients examined. Intakes of iron and zinc were below RDA for both groups. Low-income rural children had twice the RDA for vitamin A and almost twice the RDA for ascorbic acid--nutrients supplied in large quantities by vegetables and fruits.

Food intakes--low-income rural women had slightly higher intakes of milk and vegetables and slightly lower intakes of meat, poultry, fish, fruits, and grains than did low-income metro women. Low-income children in rural areas had higher intakes of meat, poultry, fish, milk, and vegetables and lower intakes of fruits and grains.

The urbanization categories are based on the Standard Metropolitan Statistical Areas as defined for the 1980 Census of Population. For this analysis rural refers to nonmetropolitan areas and metro refers to central cities and suburban areas. The data are based on 1 day of data collected in the spring of 1985 and 1986. Respondents were women 19 to 50 years of age and their children 1 to 5 years of age. Women and children living in households having income before taxes for the previous year at or below 130 percent of the poverty guidelines were classified as low-income. This income level was selected because nonelderly households that have incomes at or below 130 percent of the poverty guideline meet one of the criteria for participating in the Food Stamp Program.

[The information follows:]

Summary Table A.--Mean intakes of food energy and selected nutrients below the 1980 Recommended Dietary Allowances by rural and metropolitan women 19 to 50 years, 1 day, 1985/86

| Food energy/nutrient | Rural |  | Metro |  |
|---|---|---|---|---|
|  | Below 131% poverty | Above 130% poverty | Below 131% poverty | Above 130% poverty |
|  | percentages of RDA |  |  |  |
| Food Energy............ | 77 | 84 | 75 | 81 |
| Vitamin B-6............ | 57 | 63 | 57 | 64 |
| Calcium................ | 76 | 82 | 71 | 82 |
| Magnesium.............. | 64 | 73 | 63 | 75 |
| Iron................... | 59 | 63 | 58 | 61 |
| Vitamin E.............. | 82 | 106 | 84 | 96 |
| Folacin................ | 46 | 52 | 46 | 53 |
| Zinc................... | 58 | 64 | 57 | 60 |

NOTE: Mean intakes were above the RDA for all groups for protein, vitamin A, ascorbic acid, vitamin B-12, thiamin, riboflavin, niacin, and phosphorus.

Summary Table B.--Mean intakes of selected nutrients below the 1980 Recommended Dietary Allowances by rural and metropolitan children 1 to 5 years, 1 day, 1985/86

| Nutrient | Rural |  | Metro |  |
|---|---|---|---|---|
|  | Below 131% poverty | Above 130% poverty | Below 131% poverty | Above 130% poverty |
|  | percentages of RDA |  |  |  |
| Iron................... | 87 | 83 | 84 | 87 |
| Zinc................... | 82 | 83 | 78 | 82 |

NOTE: Mean intakes were above the RDA for all groups for food energy, protein, vitamin A, ascorbic acid, vitamin B-6, vitamin B-12, vitamin E, thiamin, riboflavin, niacin, phosphorus, calcium, magnesium, and folacin.

Summary Table C.--Mean intakes of selected foods by rural and metropolitan women 19 to 50 years, 1 day, 1985/86

| Food group/subgroup | Rural | | Metro | |
|---|---|---|---|---|
| | Below 131% poverty | Above 130% poverty | Below 131% poverty | Above 130% poverty |
| | grams | | | |
| Total meat, poultry, and fish | 170 | 174 | 175 | 172 |
| Meat mixtures | 74 | 80 | 75 | 82 |
| Beef | 26 | 35 | 25 | 25 |
| Frankfurters, sausages, and luncheon meats | 14 | 10 | 15 | 12 |
| Pork | 19 | 15 | 17 | 12 |
| Poultry | 21 | 14 | 24 | 23 |
| Fish and shellfish | 7 | 14 | 11 | 13 |
| Total fluid milk | 169 | 149 | 160 | 154 |
| Whole | 106 | 57 | 105 | 58 |
| Lowfat/skim | 62 | 92 | 54 | 95 |
| Eggs | 24 | 15 | 23 | 19 |
| Total vegetables | 157 | 196 | 147 | 183 |
| Total fruits | 90 | 116 | 102 | 114 |
| Citrus fruits and juices | 50 | 52 | 56 | 73 |
| Other fruits, mixtures, juices | 40 | 63 | 46 | 70 |
| Total grain products | 202 | 198 | 207 | 207 |
| Yeast breads and rolls | 43 | 42 | 41 | 43 |
| Other baked goods | 45 | 57 | 39 | 53 |
| Cereals and pastas | 47 | 26 | 53 | 38 |
| Alcoholic beverages | 35 | 45 | 42 | 89 |
| Fruit drinks and ades | 67 | 66 | 79 | 45 |
| Carbonated soft drinks | 257 | 314 | 278 | 302 |

Summary Table D.--Mean intakes of selected foods by rural and metropolitan children 1 to 5 years, 1 day, 1985/86

| Food group/subgroup | Rural | | Metro | |
|---|---|---|---|---|
| | Below 131% poverty | Above 130% poverty | Below 131% poverty | Above 130% poverty |
| | grams | | | |
| Total meat, poultry, and fish | 115 | 111 | 111 | 98 |
| Meat mixtures | 49 | 49 | 45 | 43 |
| Beef | 13 | 21 | 14 | 12 |
| Frankfurters, sausages, and luncheon meats | 19 | 11 | 18 | 14 |
| Pork | 10 | 9 | 10 | 5 |
| Poultry | 16 | 12 | 15 | 16 |
| Fish and shellfish | 3 | 8 | 5 | 4 |
| Total fluid milk | 371 | 306 | 358 | 377 |
| Whole | 277 | 154 | 274 | 196 |
| Lowfat/skim | 93 | 152 | 81 | 180 |
| Eggs | 26 | 18 | 22 | 16 |
| Total vegetables | 106 | 98 | 87 | 97 |
| Total fruits | 147 | 202 | 155 | 248 |
| Citrus fruits and juices | 56 | 71 | 59 | 81 |
| Other fruits, mixtures, juices | 49 | 60 | 49 | 70 |
| Total grain products | 193 | 189 | 226 | 192 |
| Yeast breads and rolls | 38 | 29 | 37 | 36 |
| Other baked goods | 30 | 43 | 38 | 46 |
| Cereals and pastas | 50 | 38 | 63 | 52 |
| Fruit drinks and ades | 118 | 71 | 91 | 64 |
| Carbonated soft drinks | 77 | 83 | 64 | 76 |

## HUNGER PREVENTION ACT IMPLEMENTATION

Several provisions of the Hunger Prevention Act of 1988 are already effective and many more are to be effective on July 1, 1989.

In order to implement most of the provisions State agencies need to know what will be the USDA requirements. For example, the Act gave States the option to reduce paperwork for both recipients and caseworkers by eliminating monthly reporting requirements. Also, the Act requires States to offer elderly and disabled recipients a simplified way of claiming a deduction for their medical costs. USDA, however, has yet to issue the specifications for the implementation of these provisions.

A half a year has already passed since enactment of the law and USDA has yet to publish a single proposed or final regulation to implement any part of the Act. This is a special concern because the opportunity for adequate time for public comment and for State training of workers is essential.

Question: Could you explain why no regulations have been forthcoming? What is the proposed timeline for the issuances of the proposed and final regulations?

Answer: The number and complexity of program changes required by the legislation does not lend itself to immediate implementation. Nevertheless, we have implemented several provisions of the Hunger Prevention Act, one through regulation and others through other mechanisms.

For the Food Stamp Program, the changes in the definition of payment errors (Sec. 604) were published as interim final regulations on November 2, 1988.

The changes in the dependent care deduction (Sec. 403) and in food stamp allotments (use of 100.65 percent of the Thrifty Food Plan, Sec. 120) were implemented by an August 18, 1988 memorandum to State agencies.

The changes in the monthly reporting/retrospective budgeting system (Sec. 202) were implemented by a September 27, 1988 memorandum to all regional offices notifying them to tell State agencies.

The requirement that the Department publish materials on certifying farm households (Sec. 321) was met on February 2, 1989 by the distribution of final training materials.

The remaining food stamp provisions of the Hunger Prevention Act are scheduled to be published as follows:

Section 344 - interim final regulation, April 1989
Sections 203, 204, 310, 311, 320, 322, 323, 330, 340, 341, 342, 350, 351, and 352 - interim final regulations, May 1989
Section 404 (a), (b), (c), and (f) - interim final regulation, June 1989 ((a), (b), and (f) retroactive to October 1, 1988)

Sections 601, 602, 603, and 604 - final regulations, August 1989
Section 404 (d) - work has begun to develop performance standards for implementation April 1, 1991, following publication of proposed and final regulations.

With regard to the commodity distribution portion of the Act and in response to immediate concerns expressed by several States about the distribution of commodities, policy correspondence addressing their concerns was prepared and provided to all Food and Nutrition Service Regional Offices for dissemination to their respective State agencies. USDA is in the process of promulgating Interim Regulations, which will provide for a 60-day comment period. We anticipate publication of the Interim Regulations in April and Final Regulations in August.

## COMMODITIES FOR THE HOMELESS IN RURAL AREAS

Question: In many rural areas there are homeless persons but no soup kitchens. The homeless in rural areas tend to rely on living with other families and/or in a car rather than in a shelter/soup kitchen arrangement.

After contacting my office about a problem which threaten to deny the availability of commodities for the homeless in rural areas, the State Distributing Agent in Nebraska was able to work out an arrangement with USDA to allow commodity assistance to be provided to the homeless in rural areas even though no soup kitchens per se operate in these areas. While I am pleased with the resolution of the immediate concern, I remain concerned that special factors affecting rural areas be considered in the policy development process at USDA.

What considerations does FNS give to situations unique to rural areas in policy development? Does FNS have a mechanism for soliciting input to proposed policies from rural residents? Can we expect to see some greater flexibility from USDA in the future on regulations affecting rural areas?

Answer: All regulations published by FNS regarding procedures for the distribution of commodities contain a specific request for public comment. Consideration is given to all comments which are received. FNS is aware that there are logistical problems associated with the distribution of commodities in rural areas. Thus, FNS is currently giving State agencies as much flexibility as possible in this area while remaining within the constraints of the legislation.

## PUERTO RICO NUTRITION ASSISTANCE

Question: The $825 million proposed level for the Nutrition Assistance Program in Puerto Rico is the same level that the Reagan Administration in 1981 said was the proper level at which to fund the grant in FY 1982 in order to meet the nutritional needs of poor Puerto Rican families.

According to your testimony unemployment is still at an extremely high level (14%) in Puerto Rico plus food prices are expected to rise more than 27% as measured by the CPI for food at home. Obviously, there is extreme poverty in Puerto Rico; improvements in the economy are only relative to the desperate starting point. The nutritional needs of the poor have not decreased since 1982.

Section 19 of the Food Stamp Act as amended requires the Secretary to pay the Commonwealth of Puerto Rico the amount estimated by the Commonwealth as long as that amount does not exceed the $936,750,000 specified in the law for FY 1990. Further the grant must be paid at the level estimated from sums appropriated to the Food Stamp Program.

Given these legal terms and conditions, under what authority is USDA proposing to provide a lesser sum in FY 1990 ? How much funding has the Commonwealth of Puerto Rico estimated is needed for FY 1990?

Answer: In establishing the Nutrition Assistance Program, Congress gave Puerto Rico considerable flexibility to design and operate a program with limited funds. The appropriate funding level may be well below the authorized level. This is not unique for NAP. For example, the Food Stamp authorization--excluding NAP--for 1990 is $15 billion and the amount needed and requested is $13.26 billion. It should also be noted that since program implementation the Island's economic conditions have improved significantly. Unemployment has dropped from 23.4 percent in Fiscal Year 1983 to about 14 percent in late 1988. Food prices, as reflected in Puerto Rico's consumer price index for food at home, have increased only 8.7 percent since Fiscal Year 1983. This rate is almost half that of food inflation on the mainland during the same period.

As one result of the improved economy NAP benefits have grown faster than food price inflation in Puerto Rico--an estimated 17.0 percent versus 8.7 percent.

Because of these factors and because overall Federal spending must be reduced to meet legislative spending targets, the U.S. Department of Agriculture has proposed in its budget specific appropriation language providing the necessary authority and appropriation account structure to limit the amount of funding available for NAP to $825 million.

---

## QUESTIONS SUBMITTED BY SENATOR COCHRAN

### FEDERAL REVIEW OF SCHOOL CLAIMS

Question: Mr. Secretary, many of my constituents, and school food service administrators throughout the country, believe that the new Federal review duplicates existing activities with regard to audit functions in the school lunch program. It is my understanding that without the Federal review we already have four different types of audits: AIMS review, single audits, AccuClaim, and OIG audits. With Federal grant-in-aid programs, I believe work is normally done through state auditors. Federal regulations are used to require state auditors to perform the reviews that the Federal government desires. It seems like a dramatic precedent -- putting Federal employees directly into local schools. What is the justification for such an unusual initiative?

Answer: The Department is very much concerned with the numerous errors in the claiming and application approval process that recent program audits and verification studies have identified. For example, analysis of data from a representative sample of schools indicated that 22 percent of schools served more free meals than they had eligible children in attendance. A later audit by the Office of Inspector General in 13 school districts generated $2 million in claims, focussed on errors in counting and claiming systems. The Assessment, Improvement and Monitoring System (AIMS) implemented in 1981 was designed to resolve those problems but it appears to have had little effect. The Department proposed the AccuClaim amendments to AIMS in an attempt to finally achieve the improvements originally sought in AIMS. However, Federal review is also needed to reinforce the importance of program integrity and to independently assess State and local progress in implementing program requirements. It should be noted that the Food and Nutrition Service has, for many years, used Federal employees to review operations at the local level in all Child Nutrition Programs as part of our traditional oversight responsibilities. Federal review is therefore, a needed complement to ongoing oversight activities.

Question: Is there not some other way we can approach our goal that is more consistent with the operation of other Federal grant-in-aid programs? Without circumventing the states? And duplicating AccuClaim?

Answer: The Department feels that Federal review is essential if significant progress is going to be made in improving National School Lunch Program management practices. Even with Federal review, overall program integrity still relies heavily on management, technical assistance, and effective monitoring by the States. The Assessment, Improvement and Monitoring System (AIMS) establishes specific standards for school food authorities to meet and for States to monitor against. These standards are being revised by AccuClaim to improve program integrity and to achieve the results originally anticipated for AIMS. The AccuClaim provisions strive to reform program practices at the local and State level by making changes in the program regulations that control local and State procedures. Federal review does not duplicate these efforts, but rather provides for Federal oversight to insure that needed improvements are made at the State and local level.

Question: Any audit or review basically has two goals: resolution of the findings (getting your money back) and corrective action (training and technical assistance to fix the problem). How will the Federal Review System achieve corrective action or fix the problem? Who will be responsible for the corrective action under the Federal Review System?

Answer: The focus of Federal review is to identify problems and recoup Federal funds claimed outside of the intent and requirements of law and regulations. Implementing corrective action is appropriately the responsibility of the individual State agencies and local school food authorities. Responsibility for corrective action in response to identified problems rests with the organization managing the program no matter what the source of the information.

Question: Do you have any idea how much money is currently being spent (federal, state, and local funds) to audit nutrition programs?

Answer: FNS provides $4 million annually in State Administrative Expense funds for State agencies to conduct AIMS Reviews/Audits of school food authorities participating in the National School Lunch Program (NSLP). Congress has also allocated $2.6 million for Federal review which is to be used by FNS for monitoring program operations at the local level. The amount of funds spent by OIG to conduct audits of the NSLP is minimal; over the past five years, OIG has averaged only six audits yearly. We do not currently have data available on the amount of funds used to conduct fiscal audits of Federal Grant Programs as required by the Single Audit Act of 1984 and OMB Circular A-128.

### WIC PROGRAM PARTICIPATION

Question: I have heard that we may be reaching approximately 50 percent of those eligible. At the hearing you mentioned that we had reached a "saturation point" with regard to infant participation. What is your best current estimate of the percent of eligibles that we currently serve in each of the participation categories--infants, pregnant women, mothers and children ages one to five?

Answer: The most current eligibility estimates for the WIC Program have been made using population and participation data for 1986. In 1986, the WIC Program served an estimated 54.0 percent of pregnant women, 53.8 percent of postpartum women, 31.9 percent of breastfeeding women, 83.2 percent of infants, and 35.5 percent of children who met both the WIC income and nutritional risk criteria.

Of those individuals with incomes below 100 percent of poverty, the WIC Program served, in 1986, 78.0 percent of pregnant women, 79.2 percent of postpartum women, 38.2 percent of breastfeeding women, virtually all infants, and 47.1 percent of children who also met the WIC nutritional risk criteria. However, when expansion due to cost containment initiatives is taken into account, by the end of 1990 we expect to be serving 4.4 million participants--nearly two thirds of those fully eligible.

## QUESTIONS SUBMITTED BY SENATOR MCCLURE

### COMMODITY LETTERS OF CREDIT

Question: Mr. Bode, I thank you for attending this hearing and for your presentation of the Administration's budget proposals for the USDA's Food and Nutrition Service. I have a keen interest in several of the programs under your jurisdiction, especially the Child Nutrition and School Lunch Programs.

I have always thought that alternatives should be sought to the Commodity School Lunch Program in an effort to streamline the School Lunch Program. I introduced legislation setting up alternatives to the Commodity School Lunch Program. These alternatives are known as the Cash in Lieu of and Commodity Letter of Credit in Lieu of

Commodities Programs. They have proven to be excellent alternatives to the straight Commodity Program.

I plan to introduce a bill which will allow those school districts which now participate as a cash or CLOC school lunch programs to remain on these programs if they so choose. Would there be any increased administrative expenses in implementing this? If so, why?

Answer: Current legislation extends the CASH/CLOC option to School Food Authorities (SFAs) through December 1990. FNS has had to develop both a short and long-term strategy for administering this program. For the current school year, Virginia Polytechnic Institute--VPI--has been responsible for the implementation of the operational procedures and the associated monitoring activities. Contracting for these services cost the Government approximately $134,000 for school year 1987-1988.

FNS is exploring alternative methods of administering the CASH/CLOC sites beyond this school year 1988-89. One option is to turn the activities that are currently performed by a private contractor, VPI, over to State agencies. In order to turn these activities over to the States, regulatory changes are needed. These regulations are currently being written, but realistically would not become effective until School Year 1990-91. Under this option, the State agencies and FNS would incur some additional administrative costs, but it is impossible, at this point in time, to quantify those costs. These costs stem from the fact that we would be administering two distinctly different systems.

Question: Is there any increased administrative costs in relation to the State of Kansas cash only program? If so, what is this added cost?

Answer: Since the State of Kansas currently operates a cash-in-lieu system it does not receive administrative funds to operate the food distribution program. However, there are minimal administrative costs borne by the regional office to provide Kansas with bonus commodities.

## FEDERAL REVIEW SYSTEM

Question: Idaho representatives of the American School Food Service Association visited me last month. They expressed concern over appropriate funding levels for the Nutrition Education and Training Program (NET). Under the current funding level of 10 cents per child, approximately $5 million per year, there is not enough funding to train personnel and at the same time educate our children on the benefits of good nutrition. One alternative which would increase funding is to take the funds from the FAIR audit, which they feel is a redundant meal count verification program and use it to more fully fund the NET program. What is your view of this proposal?

Answer: The Department opposes use of the funds requested to implement Federal review to support the NET program. Federal review was initiated in response to serious problems that were identified in meal counting and claiming in the National School Lunch Program. These problems have not disappeared and until they are effectively resolved, Federal review remains a highly important initiative.

Question: Is the FAIR meal count verification program necessary in view of the fact that we already have a meal count verification program underway?

Answer: The only current program that deals with verifying meal counting and claiming in the National School Lunch Program (NSLP) is the Assessment, Improvement and Monitoring System (AIMS) that is a part of the States' management of the program. Although the AIMS requirements have been in place for 8 years, information from a number of sources indicates that serious problems continue to exist with the fiscal integrity of claims for reimbursement submitted by schools for meals served under NSLP. AIMS requires School Food Authorities (SFAs) to be reviewed only once in 4 years with a limited number of schools within each SFA subject to an on-site review. The Food and Nutrition Service (FNS) estimates that in any given year, between 8,000 to 9,000 of approximately 90,000 participating schools are reviewed under the AIMS standards. With more than 90 percent of schools nationwide operating NSLP without a yearly meal accountability review, FNS believes the additional review level of federal review is appropriate and does not unnecessarily duplicate this activity. Although AIMS has been in place for almost a decade, there are still a large number of schools that have not had any AIMS review activity.

Question: I am supportive of accountability in the School Nutrition Program but recently was provided with a list of duplicative activities currently in place under the Federal Review System. The list has eight separate audits: 1. State audits of major Federal programs under the Single Audit Act, 2. State and local reviews of meal counting and claiming procedures several times a year (Federal AccuClaim), 3. State reviews every four years of school lunch accountability standards specified in 7 CFR Part 210 (Federal AIMS regulations), 4. OIG audit of State agencies and local school districts, 5. State agency follow-up reviews of local districts and schools after OIG audits, single audits and regulatory local and/or State reviews, 6. Annual State agency paper review of schools' cash collection and meal accountability procedures, 7. Reviews by FNS Regional office staff during USDA management evaluation of State agencies, 8. Reviews conducted by State agencies in follow-up on complaints. How many audits do we need to make of school lunch programs to maintain sound efficient school lunch programs?

Answer: Most of the activities you cite are not audit or review activities, but simply the requirements of sound management of the program. Those that do constitute audit or review activity either do not generally deal with meal accountability, or have dealt with it ineffectively.

Question: Do you feel that there may be too many audits of the school lunch program?

Answer: No. There is a great deal of misinformation being generated about the extent of required audits and reviews of school lunch operations. Most activities cited by those who use this data to describe Federal Review as an unnecessary duplication of other activity are not audits or reviews, but simply basic management activities that are necessary for the effective oversight of the program whether or not they are required by law or regulation. Those that do constitute audit or review activity either do not generally deal with meal accountability or have dealt with it ineffectively.

Question: What is the cost of running these audits to both the Federal/State Auditors and to the School Districts?

Answer: FNS provides $4 million annually for State agencies to conduct AIMS Reviews/Audits of school food authorities (SFAs) participating in the National School Lunch Program. At the State agencies discretion, it may also use State Administrative Expense funds to conduct these reviews of activities related to the Child Nutrition Programs.

State and local governments which participate in Federal Grant Programs are required to conduct fiscal audits of program operations on an annual basis in accordance with the Single Audit Act of 1984 and OMB Circular A-128. Audits are an allowable expense in proportion to each Federal Grant received that participating school food authorities may charge against funds received as program reimbursement. We do not have data available on the amount of funds that are used by SFA's to conduct these required audits.

Question: Is there any way to reduce the number of audits and still maintain adequate control over these programs?

Answer: An effort is underway to examine all the requirements associated with the Child Nutrition Programs to determine what reporting and/or review requirements may be lessened or eliminated without a negative impact on the integrity of the programs. We will keep you informed on the progress of this effort.

FOOD STAMP PROGRAM

Question: The Food Stamp Program has in the past been criticized for its excessive error rates. You mentioned in your prepared statement that erroneous food stamp coupon issuance by States has fallen more than 23 percent since 1981, providing a savings of almost $1 billion.

Is it feasible to reduce the error rates below the national error rate of 7.59 percent? How could this best be accomplished?

Answer: States have made significant progress toward lower error rates thus far, but I believe further reductions are still possible. In Fiscal Year 1987, 35 States had overpayment error rates higher than 6 percent, the goal set for the combined overpayment and underpayment error rates in the Hunger Prevention Act of 1988. Fifteen States had overpayment error rates above 8 percent, 4 States had an error rate above 10 percent. In my view, there is still room for improvement.

There is no single answer to achieving further reductions. We need to foster a strong commitment on the part of State and Federal managers to reduce errors. We need to encourage innovation and creativity to find new approaches, and we need to identify effective solutions and share them with others.

Question: What would the expected savings from a reduction of one percent in the error rate?

Answer: A one percentage point reduction in the national overpayment error rate--from 7.59 percent to 6.59 percent--would save one percent of benefits issued. In Fiscal Year 1990, the savings would be $120 million.

### DIETARY GUIDELINES

Question: I have only one question for you concerning the Human Nutrition Information Service. Idaho is a large beef producing state and also produces pork and lamb. Our producers feel that information provided by the Food and Nutrition Service, Human Nutrition Information Service, at times, is less than fair in presenting the value of having red meats in a well balanced diet. In your efforts to provide nutrition knowledge to professionals and consumers, does the service distribute information on the value of consumption of red meats in a well-balanced diet? What actions do you expect to take to help keep this information in front of the consumers?

Answer: The concept of a well-balanced diet made up of foods from specified food groups has been a characteristic of USDA's dietary guidance since the turn of the century. The meat, poultry, fish group has always been one of the specified food groups. The Dietary Guidelines for Americans, published jointly by USDA and the Department of Health and Human Services, are based on the principles of variety, moderation and balance in food choices. The Human Nutrition Information Service's Food Guide, first published in 1983, is designed to help people implement the Dietary Guidelines in their daily food choices. This Guide recommends that Americans eat 2 to 3 servings of foods in the meat, poultry, fish group, totaling 5-7 ounces lean. The Human Nutrition Information Service will shortly be publishing a new, more visual presentation of the Food Guide.

In addition, HNIS has repeatedly pointed out in speeches and interviews that Americans should not eliminate meat and dairy products from their diets in an effort to reduce their fat and cholesterol intake because these foods are important sources of nutrients. This warning is based on data from USDA's 1985 and 1986 Continuing Survey of Food Intakes of Individuals which shows that women are consuming less meat and whole milk. The women with low fat and cholesterol intakes also had intakes of iron, zinc, and calcium below the average.

---

## QUESTIONS SUBMITTED BY SENATOR KASTEN

### AVAILABILITY OF COMMODITIES

Question: Mr. Bode, in your February 21 letter to Senators Leahy and Lugar you state that reductions are being made in the amount of bonus (free) cheese available to charitable institutions, Nutrition Programs for the Elderly, and Child Nutrition Programs will be curtailed through June at least. Can you update us on this situation and what we can expect in the future?

Answer: The situation has not changed for cheese since my February 21, 1989 letter to Senators Leahy and Lugar and we cannot predict how much cheese will be available in the future for domestic donation programs. The expected increase in the support price for manufacturing milk on April 1, 1989 should raise the support price for cheese. Current market demand for cheese as of late March has increased in anticipation of the increase in support levels. Therefore, the picture is unclear as to whether or not there will be sufficient significant offerings to continue supplying cheese at past levels to our programs.

Question: Mr. Bode, I am interested in the implementation of the Hunger Prevention Act. The law calls for you to buy commodities for soup kitchens and TEFAP. I am concerned about reports that the Food and Nutrition Service has not bought a variety of foods. What is the situation?

Answer: The Hunger Prevention Act calls for the Department to purchase $120 million in additional commodities for TEFAP during Fiscal Year 1989. As of this date we have completed purchases in the amount of $72.4 million and are continuing to make bi-weekly buys to meet the total requirement. Because of the large number of TEFAP recipients, the variety of commodities offered needed to be somewhat limited in order to make a reasonable amount available quarterly to 15,000,000 participants. The commodities that are being purchased for TEFAP in addition to the flour, cornmeal, butter and honey now offered are peanut butter, vegetarian beans, canned pork, raisins and egg mix. All the commodities purchased have been allocated on the basis of the requirements in the law and we expect to continue purchasing and shipping to assure an equitable distribution.

Likewise, the Hunger Prevention Act requires the Department to purchase and distribute $40 million to Soup Kitchens during this fiscal year. To date we have purchased $28 million and are continuing to make bi-weekly buys of canned meat items. The commodities for soup kitchens include canned pork, canned lunch meat, split peas/lentils, dry beans, dehydrated potatoes, canned pears, grapefruit juice, orange juice and sweet potatoes. We do not anticipate any difficulty in purchasing and distributing the total amount required.

---

## QUESTIONS SUBMITTED BY SENATOR SPECTER

### WIC PROGRAM

Question: The Special Supplemental Food Program for Women, Infants, and Children (WIC) is recognized by researchers and medical professionals as one of the most successful federal health programs available to those determined to be of nutritional risk. Yet despite these accomplishments, the scope of the program is limited. It is reported that the program reaches fewer than half of the women, infants, and children who are eligible.

With the information available to you, how many women, infants, and children are there in the United States today eligible to participate in the WIC Program? Would you also provide me with the number of women, infants, and children eligible for assistance in Pennsylvania?

Answer: Department estimates of the number of persons eligible for the WIC Program are based primarily on the 1980 Census of

Population and Housing, the 1976-80 Second National Health and Nutrition Examination Survey (NHANES-II), and the 1980 National Natality Survey/National Fetal Mortality Survey (NNS). An update of these original estimates has been made for 1986 using the most recent data available from Census, the March 1987 Current Population Survey (CPS). The estimates for 1986 reflect the population distribution in the base census year of 1980 and the nutritional risk information from NHANES-II and NNS, but uses information on income and population growth rates for 1986 to update the original estimates.

In 1986, the fully eligible (meeting both income and nutritional risk criteria) population in the WIC Program included 685,000 women, 1,118,000 infants and 4,478,000 children, a total of 7,015,000 persons.

Similar estimates for individual States have not been updated to 1986 because detailed income and population growth data (comparable to the CPS) are not available for individual States. In 1979, the fully eligible population in the WIC Program in Pennsylvania included 28,775 women, 22,949 infants, and 88,141 children, a total of 139,865 persons.

Question: In addition, the Fiscal Year 1989 appropriations contained language directing the Department to assist all States to implement competitive bidding or concessional pricing systems to maximize participation under WIC program funds. To date, how many states have adopted this initiative? What level of savings or increased participation do you anticipate as a result of this initiative?

Answer: Prior to enactment of the Agriculture Appropriations Act of 1988, 14 State agencies had implemented infant formula rebate systems, most of which are based on competitive bidding. Another 3 States had previously implemented some form of home delivery, and one directly procured and provided all WIC foods to participants. Another 14 States were developing rebates systems at the time of enactment. Since then, an additional 9 States have begun movement toward rebate systems. With the possible exception of some small State agencies, primarily Indian State agencies, all State agencies should be able to implement some form of cost containment system. Together, the rebate systems currently in place and those which the Department anticipates as a result of the appropriations legislation could effect an annual savings of well over $200 million in Fiscal Year 1989 and over $300 million in Fiscal Year 1990. By 1990, these cost containment activities will allow for an increase in average monthly participation by about 700,000.

## FOOD STAMP PROGRAM

Question: The Food Stamp Program (FSP) is one of the Food and Nutrition Service's largest programs. However, it has been reported that as many as 56 percent of eligible participants nationwide are not receiving food stamps. Reports further indicate that the 56 percent who are entitled, but do not participate, do so because they believe their incomes are too high.

What is the Food and Nutrition Service doing to provide more outreach to potential participants? What assistance is being provided for the elderly and disabled persons who are potential participants?

Answer: The Hunger Prevention Act gave State agencies the option to inform low-income households about the Food Stamp Program and receive 50 percent Federal funding. The authority for federal funding of outreach in P.L. 100-77, the Stewart B. McKinney Homeless Assistance Act, only extended to informational activities directed at homeless people. Providing program information is a State agency activity, the funding of which is shared with the Federal Government.

Two informational activities undertaken by the Department are: (1) Make Your Food Dollars Count, 1983 -present. This is a USDA nutrition information project designed to help low-income families, particularly food stamp recipients, to buy and prepare nutritious foods that are low in cost. The project includes pamphlets and posters, audio-visual materials and workshops. (2) Ad Council Campaign, 1988 - present. The Food and Nutrition Service contracted with the Advertising Council to produce a nutrition education campaign directed toward food stamp recipients. The campaign includes television and radio public service announcements, newspaper and magazine advertisements, cards for mass transit, pamphlets and posters for food stamp offices, and other promotional material for food stamp offices and the media.

While there is no national informational effort directed specifically at elderly and disabled low-income people, our expectation is that State agencies undertake informational projects directed at the most needy groups in the State, which could very well include elderly/disabled people. The Food Stamp Program includes several features to make it easier for low-income people who are elderly or disabled to participate in the program, primarily the waiver of visits to certification offices, provision for use of authorized representatives, and certain more lenient eligibility requirements.

## BUDGET INITIATIVES

Question: Under the Administration's Fiscal Year 1990 budget, what improvements are being made to enhance the efficiency and effectiveness of the U.S. Department of Agriculture's Food and Nutrition Service in implementing its programs for the poor.

Answer: This Committee has provided support for several important initiatives that will continue in 1990. I would like to highlight a few of these.

The Food and Nutrition Service is committed to improving administrative efficiency in the Food Stamp Program's issuance process. To determine if Electronic Benefit Transfer technology can be cost-effective, four new project sites--Washington, Arizona, Minnesota, and New Mexico--in addition to the on-going project in Reading, Pennsylvania, have been designated to conduct additional testing.

Working with other Departments through the Interagency Low-Income Opportunity Advisory Board, we have provided States an avenue to initiate innovative changes to welfare programs. Thus far, we have received proposals from 13 States with ideas to streamline or simplify the administration of the Food Stamp Program. Four projects have started up.

Since April 1987, Food Stamp Employment and Training programs designed by State agencies have been serving food stamp participants nationwide. These programs provide a variety of services, including job search, job search training, workfare, and vocational and basic education.

We are working closely with WIC State agencies to develop and implement a variety of cost-containment measures, enabling the program to serve more women, infants, and children with the same grant funds.

We will continue our work with the new Federal Review System for the Child Nutrition Programs to independently verify claims for reimbursement. This effort recognizes the Department's responsibility for the overall integrity of these programs and will complement State efforts.

## QUESTION SUBMITTED BY SENATOR GRASSLEY

### FOOD BANK DEMONSTRATIONS

Question: Last September, the USDA announced the award of 3 demonstration projects for the distribution of perishable Section 32 commodities through food banks. I was pleased that Iowa was one of the three states which received the award. The project has been very well received in my state, with distribution points at dozens of locations. I understand that distributions depend on the availability of commodities, but I have been informed that the food bank has already stopped receiving these commodities, just a few months into the project. Has distribution been discontinued?

Answer: The distribution to three demonstration sites has not been discontinued. The amount of food provided for the first six months of operation (commencing in November 1988) was based on reported caseload for that period of time. It should be noted that the foods distributed were Section 32 bonus foods.

Question: When do you expect it to be resumed?

Answer: Recently, we assessed the bonus situation for the next 6-month period. Currently, the only Section 32 commodity designated as a bonus is prunes. We are in the process of preparing letters to the sites asking if they wish to accept this donation. Since the designation of Section 32 items as bonus depends on market conditions at any given time, other commodities may become available to the pilot sites as the year progresses.

Question: Are these commodities being distributed to schools, or other institutions, instead?

Answer: There are no commodities that these food banks could receive that are being distributed to schools or other institutions, instead only products that can be classified as bonus can be offered to the food banks. Schools receive other commodities, but the variety they receive is related to the purchasing that occurs to meet their entitlement commodity donations.

Question: Are those schools, and other Section 32 outlets, redonating their unused commodities to food banks? It has been my understanding that the redonation process had never been utilized with much success.

Answer: We are not aware that any redonations from schools or other institutions has occurred in the demonstration projects. Redonation is voluntary on the donors part.

## FARMERS' MARKET DEMONSTRATION PROJECTS

Question: Going on to another issue of somewhat local concern - last year Congress also authorized demonstration projects for WIC farmers markets. An application from Iowa has been submitted. How many applications have been submitted?

Answer: Seventeen applications were submitted.

Question: Has the Department begun to review them yet?

Answer: Farmers' Market Coupon Demonstration Project grant applications were due on Friday, February 24. The Evaluation Panel began its review of applications early in the following week.

Question: I understand that decisions would be made by mid to late March. Could you give me an idea how close you are to making a decision on the awards?

Answer: The Department communicated its plan to announce grant awards by the end of March in correspondence to Governors and heads of Indian State agencies. Given the timely and deliberate action that has been taken on the applications, this intention appears realistic, notwithstanding the complexity of the evaluation process.

## TEMPORARY EMERGENCY FOOD ASSISTANCE PROGRAM

Question: Last year Congress, especially this subcommittee, spent quite a bit of time examining the Temporary Emergency Food Assistance Program because of depletion of surplus commodities in storage. As I was studying this, I tried to get information regarding the nutritional and welfare benefits to the TEFAP recipients. Though I was repeatedly assured that the program was doing good, I was provided with no analytical information about its utilization. Has the Department begun to collect this information now?

Answer: The Department regards the Food Stamp Program as the primary vehicle for providing nutritional assistance to the low income households. Further, given the temporary nature of the Temporary Emergency Food Assistance Program, USDA has sought to keep administrative overhead to a minimum. Therefore, we do not routinely collect information on the nutritional and welfare benefits of the Temporary Emergency Food Assistance Program to its recipients. However, the Agency did conduct a thorough assessment of the program that was released in 1987 that described the population served and provided information about other nutrition and welfare programs in which the recipients participated. As the program has not changed substantially since the report was issued, aside from the volume of food distributed, the report may be of interest to you. We will provide a copy to you.

## TEMPORARY EMERGENCY FOOD ASSISTANCE PROGRAM

Question: From reading the testimony of Mr. Heimbach, it would seem that USDA, in particular the Human Nutrition Information Service, is monitoring, studying, and analyzing almost every aspect of food consumption possible...except one. That is the consumption and nutrition impact of TEFAP. Has the HNIS ever attempted to study the extent to which TEFAP commodities are used by, and provide nutritional benefit to, its recipients?

Answer: HNIS has not conducted a specific study of Temporary Emergency Food Assistance Program recipients. We have included several questions on USDA-donated foods in the 1987-88 Nationwide Food Consumption Survey (NFCS) and the 1989 Continuing Survey of Food Intakes by Individuals (CSFII). Because few individuals participate in Temporary Emergency Food Assistance Program relative to the total population, the survey samples are unlikely to include many Temporary Emergency Food Assistance Program participants. Consequently, we will be limited in any analysis.

Question: Would it not be possible to conduct such an analysis?

Answer: Analyses from the NFCS or CSFII will be limited because our nationwide sampling is unlikely to include many Temporary Emergency Food Assistance Program recipients. It would be possible to conduct a specific study of the Temporary Emergency Food Assistance Program, but it would be relatively costly.

Question: I´d like to explain my concerns a bit, if I may. TEFAP began as a temporary emergency response to an agricultural situation - that being excessive amounts of USDA stored commodities. TEFAP obviously was a benefit to low-income persons, but it was really more tied up with farm policy at its inception. TEFAP, as with all government programs, developed its own constituency. So when the surplus commodities dwindled to the extent that TEFAP distributions nearly expired, Congress heard a loud cry of alarm.

Since Congress was not equipped with information about the nutritional and welfare benefits of the program, last year Congress extended TEFAP until September of 1990, so that the program will be further analyzed in the context of the Farm Bill. Next year, it is imperative that Congress be provided information that enable us to make sound decisions about the future and format of TEFAP.

So again, is my assessment correct that the Department does not collect this information? If not, why not and when will you? If yes, why is it not provided here and will you send it to my office?

One more point on TEFAP, if Congress does decide to extend the program, I´d suggest that it be renamed to something other than "temporary" or "emergency."

Answer: It is true that the Department does not routinely collect information on participation or the impact of the program. That is because the program was intentionally designed to be less structured than many of the traditional income and food assistance programs. However, the Department did complete an assessment of the Temporary Emergency Food Assistance Program in 1987 which described both the State and local operations as well as the recipients of the program. As the program has not changed substantially in organization since the report was completed, I hope that it will be of help to you. Also, as you know, the Food Stamp Program supplanted commodity distribution as the Federal government's primary mode of food assistance. Food stamps were preferred to commodities by recipients and by State and local officials. We view the Temporary Emergency Food Assistance Program as an important adjunct to the farm programs, but not an efficient way of helping those in need.

Question: Also included in the Emergency Hunger Prevention Bill was a provision requiring that a portion of the funds set aside in the TEFAP program for information and referral be used to provide information to TEFAP recipients about storage and preparation of the commodities.

Could you give me a progress report on the Implementation of this specific provision?

Answer: Section 103 of the Hunger Prevention Act of 1988 permits emergency feeding organizations to use Temporary Emergency Food Assistance Program (TEFAP) administrative funds to provide information to TEFAP participants concerning the appropriate storage and preparation of TEFAP commodities.

Guidance to clarify implementation of that legislation has been provided to all Food and Nutrition Service Regional Offices for dissemination to their respective State agencies. The TEFAP regulations are being revised to incorporate this provision. We anticipate publication of these regulations in April.

## DUPLICATION AVOIDANCE

Question: Mr. Heimbach, much of the study and analysis your office collects seems to be similar to that conducted by universities, in particular land grant colleges and universities.

What are you doing to ensure no duplication of effort?

Answer: We believe there is very little duplication of effort. HNIS has the resources for only limited indepth analysis of survey data. Most HNIS staff are assigned to planning and monitoring survey data collection procedures and publishing statistical tables. The majority of indepth analyses on survey data is conducted by universities, primarily land-grant institutions. HNIS funds much of this research through contracts, grants, and cooperative agreements, taking care to avoid duplication.

Question: Do you collaborate with universities from time to time, when you are engaged in similar endeavors?

Answer: The Agency has a close association with universities. This is accomplished by our attendance at Land-Grant Colleges' Regional Research Projects meetings; professional meetings; National Nutrient Data Bank Conferences; and workshops. In addition, HNIS contracts with universities for much of its needed indepth analyses of survey data and on the nutrient content of foods.

Question: To what extent has it been considered that some of the research you conduct could be contracted out? I would think some colleges would appreciate the opportunity to be involved.

Answer: HNIS contracts out a majority of its indepth analyses of the food consumption surveys and all of its nutrient composition analyses. For the most part, land-grant colleges are the principal contractors. In the last three years, contracts have been awarded to the following: Utah State University, University of North Carolina, Cornell University, Mississippi State University, University of Arizona, Iowa State University, University of California, National Analysts, Washington State University, Pennsylvania State University, Case Western Reserve University, University of Idaho, Hazleton Laboratories, Inc., University of Georgia, University of Missouri, Woodson Tenent Laboratories, Inc., Webb FoodLabs, Porter/Novelli.

## PARTICIPATION IN FNS PROGRAMS

Question: Regarding the nature of participation in your nutrition programs, does the department collect, either by itself or with the Department of Health and Human Services, information regarding the length of time that participants receive these benefits? If yes, how long do recipients typically collect food stamps? WIC? other program products?

Are you able to determine whether beneficiaries of USDA nutrition programs are involved for short term emergency needs, such as if a family member is suddenly unemployed or if a medical emergency exhausts their resources - so that the program addresses only a transitional need? Or do the recipients tend to be longer term beneficiaries, and thus more apt to also be dependent on other forms of public assistance?

Answer: USDA, itself, does not routinely collect data on the length of participation in nutrition programs. USDA is using data routinely collected in two surveys--the Census Bureau's Survey of Income and Program Participation (SIPP) and the University of Michigan's Panel Study of Income Dynamics (PSID)--to conduct participation analyses. USDA also made a special effort to conduct monthly food stamp case record data between 1980 and 1983 as part of the Department's evaluation of the effect of the Omnibus Budget Reconciliation Act of 1981. These data have also been used to analyze food stamp participation patterns.

We have some work in progress using these data which indicates that a significant share of cases receive food stamp assistance for a short period of time. In this sense, food stamps are meeting emergency needs--they provide help until a household is able to get on its feet again. At the same time, some groups of food stamp recipients--the elderly and disabled--do not receive food stamps for brief periods. For these groups, assistance from the Food Stamp Program is often part of a package of services from several programs.

We are also examining patterns of participation in WIC using data collected as part of our effort to describe the characteristics of WIC participants. Both analyses should be completed later this year. We will share copies of the reports with the committee as they are released.

## SUBCOMMITTEE RECESS

Senator **Burdick**. This concludes today's hearing.

The subcommittee will next meet on Tuesday, April 4, at 10 a.m., in room SD-124, and we will review the budget for the Commodity Futures and Trading Commission, the Food and Drug Administration, the Farm Credit Administration, and the Farm Credit System Assistance Record.

This committee will stand in recess.

[Whereupon, at 11:08 a.m., Thursday, March 16, the subcommittee was recessed, to reconvene at 10 a.m., Tuesday, April 4.]

# AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1990

---

TUESDAY, APRIL 4, 1989

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
*Washington, DC.*

The subcommittee met at 10 a.m., in room SD–124, Dirksen Senate Office Building, Hon. Quentin N. Burdick (chairman) presiding.

Present: Senators Burdick, Bumpers, Kerrey, Cochran, Kasten, and Grassley.

## COMMODITY FUTURES TRADING COMMISSION

### STATEMENT OF WENDY L. GRAMM, CHAIRMAN

ACCOMPANIED BY:

MOLLY BAYLEY, EXECUTIVE DIRECTOR
MADGE BOLINGER, BUDGET DIRECTOR

### OPENING REMARKS

Senator BURDICK. Good morning, ladies and gentlemen.

This morning we continue our hearings reviewing the 1990 budget of Agriculture, Rural Development and Related Agencies.

Today we will review what the subcommittee refers to as its related agencies.

We will have three panels today, and we will begin with the Commodity Futures Trading Commission, and our witness is Dr. Wendy L. Gramm, Chairman.

Dr. Gramm, I note that your budget request is for $37,399,000, an increase of $2,676,000 over the 1989 level.

I also note that you have now requested an additional $585,000 over that amount.

We have your statement which will be made part of the record.

Now, Dr. Gramm, you may proceed with your remarks, after which the subcommittee will have questions.

### STATEMENT OF DR. GRAMM

Dr. GRAMM. Thank you very much. I appreciate the opportunity to be here today to summarize our fiscal year 1990 budget request, and I will just summarize my comments this morning. As you have indicated, my longer statement will be put in the record.

I have here with me today Molly Bayley, who is the Executive Director of the Commodity Futures Trading Commission, and Madge Bolinger, the Budget Director.

In January the President submitted to Congress the fiscal year 1990 budget that contained a request for $37,399,000 and 545 staff-years for the Commodity Futures Trading Commission. After the President submitted the budget, the Department of Justice and the Commission acknowledged the existence of an undercover investigation of trading activity on the Chicago Board of Trade and the Chicago Mercantile Exchange. There have been no indictments as yet. However, a grand jury has been convened.

Both the Senate Committee on Agriculture, Nutrition and Forestry and the House Subcommittee on Conservation, Credit and Rural Development have begun hearings focused partly on the adequacy and effectiveness of Commission resources devoted to the oversight of the exchanges.

They have asked the Commission to evaluate our own oversight procedures and to consider a number of changes, many of which have resource implications. To address these concerns and other issues, we believe additional resources will be needed in fiscal year 1990 in order to increase the level of trade practice surveillance, floor surveillance, and the investigation and prosecution of trade practice abuses.

These increases will strengthen our capacity to ensure market integrity and maintain confidence in the markets as well as to allow us to evaluate and implement proposals for change expeditiously.

Specifically, the Commission requests an additional 10 staff-years for contract market oversight and enforcement over and above the 545 staff-years originally requested.

We have filed a budget amendment with OMB requesting $585,000 to pay the costs of these additional 10 staff-years. We have forwarded this budget amendment concurrently to the subcommittee to inform you of our increased budgetary requirements.

During the past year the Commission has initiated and completed a number of important actions, and I would like to highlight these for you.

Our staff recently finished an 18-month review of the audit trail systems at nine exchanges. Because we are committed to ensuring that exchange audit trail systems are effective tools for deterring, detecting, and prosecuting violations of exchange and Commission regulations, we made recommendations to each exchange to improve its audit trail system and its use of trade timing information in its compliance program.

In addition, on March 8 we sent a letter to each exchange asking them to review further their audit trail systems to see if they adequately verified the accuracy of timing data and source records such as order tickets and trading cards. We asked each exchange to set timetables for achieving verifiable accuracy levels and for assuring that adequate procedures are in place to detect and sanction violations of recordkeeping and reporting requirements.

In the same letter we underscored our concern that audit trail systems effectively detect trading abuses. We stated that the Commission would begin its own assessment of dual trading and directed exchanges to assist us by providing certain data.

Exchanges were asked to address two questions: Whether certain limitations on dual trading could reduce various types of customer trading abuses; and whether certain dual trading restrictions might unduly limit liquidity for particular markets. We expect the exchanges to respond by April 30 of this year.

Because of the Commission's oversight activities and exchanges' legal obligations to maintain effective programs, exchanges continuously upgrade and review their own self-regulatory programs. In response to the investigation in Chicago, the CME, the CBT, and a number of other exchanges recently began intensified review of these programs to determine whether system changes are necessary to address more effectively potential trading abuses.

To aid this process we gave each exchange a list of issues that they should consider in their reviews. We are considering these issues and others in our review of our own oversight programs.

Let me just touch on several other significant Commission actions during the last year.

In February we approved the Chicago Mercantile Exchange's proposed Globex trading system, the first electronic trade execution system at a U.S. futures exchange.

In January we issued an interpretation clarifying that certain hybrid instruments are excluded from the Commission's jurisdiction, and we also proposed a regulatory exemption for other option-like hybrid instruments.

We continue to work cooperatively with our fellow regulators to avoid regulatory duplication or regulatory gaps or uncertainty in this area.

Internationally we have moved forward by approving applications from several foreign futures exchanges to allow them to offer futures and options contracts in the United States.

During the severe drought of last summer, we significantly increased market surveillance. While prices were volatile due to the great uncertainties regarding the impact of the drought on crop yields, no problems of price manipulation arose during that period.

I also participated on the President's Interagency Drought Policy Committee chaired by the Secretary of Agriculture.

We also participated last spring in the Presidential Working Group on Financial Markets, which was formed to address issues raised by the October 1987 stock market break. In the past year, exchanges and market regulators have initiated many of the working group's recommendations. For example, coordinated circuit breaker mechanisms have been implemented across securities and futures markets, and credit, clearing and settlement systems have been improved to facilitate more efficient cash flows.

Before closing, I would like to make several points about the Commission's enforcement program in light of the Chicago investigation.

We believe in Texas-style justice at the Commission. Punishment for fraud should be swift, sure, and sufficient to deter further violations. Participation in this undercover operation is in keeping with the aggressive role we have taken over the years in prosecuting commodity-related fraud.

The CFTC's enforcement program has frequently included joint enforcement activities with the FBI, the U.S. attorney's offices, and other civil and criminal law enforcement agencies at the State and Federal level. This type of interagency approach assures that all available resources are applied to protecting the integrity of the markets and individual customers from fraud and abuse.

During the past year, we have been active in addressing many issues with wide-ranging implications for the commodity futures and option markets. The events of last year underscore the Commission's need to more rapidly increase its resources in trade practice surveillance and enforcement areas. The Commission is requesting 555 staff-years and $37,984,000 to oversee and regulate the U.S. commodity futures industry and to enforce the law and Commission regulations.

Thank you. I will be happy to answer questions.

## PREPARED STATEMENT

Senator **Burdick**. Thank you. Your complete statement will be made part of the record.

[The statement follows:]

### Statement of Dr. Wendy L. Gramm

Mr. Chairman and Members of the Subcommittee: I appreciate the opportunity to appear here today to summarize the fiscal year 1990 budget request of the Commodity Futures Trading Commission. With me are Molly Bayley, the Executive Director of the Commission, and Madge Bolinger, the Budget Director.

The President's fiscal year 1990 Budget which was submitted to Congress in January 1989 contained a request for $37,399,000 and 545 staff-years for the Commodity Futures Trading Commission. This is the amount the Commission requested of OMB in September of 1988. Following the President's budget submission in January, the United States Department of Justice and the Commission publicly acknowledged the existence of an undercover investigation that has been taking place regarding trading on the Chicago Board of Trade and the Chicago Mercantile Exchange. There have been no indictments as yet; however, a grand jury has been convened.

Both the United States Senate Committee on Agriculture, Nutrition and Forestry and the Subcommittee on Conservation, Credit, and Rural Development of the House Agriculture Committee have begun a series of hearings focusing on the efficacy and adequacy of CFTC resources devoted to regulation of the exchanges. They have asked the Commission to evaluate its oversight procedures and to consider a number of changes, many of which have resource implications.

As the events have unfolded thus far, and in order to address issues that have become a focus of public concern, both within and outside the industry, the Commission believes additional resources will be needed in fiscal year 1990. These additional resources will allow the Commission to increase the level of trade practice surveillance, floor surveillance, and investigation and prosecution of trade practice abuses and to analyze and implement various proposals for reform. More specifically, the Commission believes that it needs an additional 10 staff-years for contract market oversight and enforcement over and above the 545 staff-years requested in the President's budget for fiscal year 1990. As a result, we have filed a budget amendment with OMB formally requesting the $585,000 required to pay the salaries and related costs of these 10 staff-years. As required by our statute, we have forwarded this amended budget of $37,984,000 and 555 staff-years concurrently to the House and Se~~nate Agricul~~ture and Appropriations Committees. We have also forwarded copies directly to members of the Subcommittee in order to inform you of our increased budgetary requirements.

The commodity futures and option markets are vital to the economy of the United States. An additional increase in the Commission's budget above the President's budget request will further strengthen the Commission's oversight and enforcement capacity and lead to increased confidence in the markets so that they can perform their economic role more effectively.

### COMMISSION OVERSIGHT

Before I briefly review some of the highlights of Commission activities during the past year, I would like to first note the Commission's important routine oversight programs which form the nucleus of our mission as an agency. For instance, our surveillance of trading on the floors of the exchanges involves not only our rule enforcement review program, which assesses exchange efforts to assure that trading is fair and efficient, but also trade practice investigations based on computerized analysis of trade data to identify abuses. Similarly, the Commission's financial oversight program also includes periodic rule enforcement reviews, financial surveillance procedures to identify circumstances that warrant intensified Commission scrutiny, direct audits of member firms on a sample basis, and an early warning system to assure that incipient financial problems are detected and closely monitored. Through our market surveillance program, the Commission monitors the daily activity of large traders in all markets to prevent price manipulation. Finally, our ongoing enforcement efforts involve not only our own prosecution of violations of the Commodity Exchange Act, but also continuous contact, cooperation and joint activity with a myriad of state, Federal and foreign law enforcement agencies.

### AUDIT TRAIL

In addition to these ongoing activities, the Commission has initiated or completed a number of important actions during the past year. The Commission recently finished an 18-month review of the audit trail systems at nine exchanges. These systems were implemented by all exchanges following the Commission's requirement that the minute of execution be determined for all trades. The remaining two exchanges with actively-traded contracts are being reviewed at present. While each system examined was found to have been adequate at this initial implementation stage, the Commission is committed to ensuring that exchange audit trail systems are reliable tools for deterring, detecting and prosecuting violations of exchange and Commission regulations. Thus, following each review, the Commission made recommendations to each exchange to improve its system and its use of trade timing information in its trade practice surveillance program.

As part of its implementation review, on March 8, 1989, the Commission's Division of Trading and Markets sent a letter to each commodity exchange about audit trail enhancements and related issues. The Division requested that each exchange review the verifiability of timing data in its system and the accuracy of source records such as order tickets and trading cards. Specifically, each exchange was asked to (1) set timetables for specific verifiable accuracy levels, (2) assure that adequate procedures are in place to prevent alteration or fabrication of source documents, and (3) assure that procedures are in place to permit prompt detection and adequate sanction of member noncompliance with recordkeeping and reporting requirements. Each exchange is expected to report on its efforts in these areas by April 30, 1989. The Commission will review all this information upon receipt and issue additional guidance as appropriate.

### DUAL TRADING

In the March 8 letter referred to above, each exchange also was requested to provide data to assist the Commission in a current assessment of dual trading. In the past the Commission has expressed its concern that exchange audit trail systems be made sufficient to address the potential for dual trading abuses. Therefore, in the March 8 letter the Division reiterates the Commission's concern that audit trail systems be effective for detecting dual trading abuses, and also asked whether potential limitations on dual trading could address certain types of customer trading abuses and, additionally, whether restrictions on dual trading might unduly limit liquidity for particular markets. A response from the exchanges on these issues is expected April 30, 1989. A copy of the March 8, 1989 letter is included in Appendix A.

### REVIEW OF SELF-REGULATION

As a consequence of Commission oversight and the legal obligation to maintain effective programs, the exchanges continuously upgrade and review their self-regulatory programs. The Commission's rule enforcement reviews have a positive effect in stimulating such upgrades. For example, last fall the Coffee, Sugar & Cocoa Exchange in New York committed resources to initiate a major review of its computer-assisted trade practice surveillance system, which had been in operation for a number of years, to determine what improvements were needed in the system. In addition, in response to the investigation in Chicago, the CME, CBT, and a number of other exchanges recently commenced self-regulatory reviews. These reviews are designed to reassess exchange compliance systems in terms of (1) the types of potential violations mentioned in the press regarding the Chicago investigation, and (2) other matters relevant to the effective daily operation of such systems. To aid this process, in February, the Commission's Division of Trading and Markets provided to each exchange a list of issues for their consideration covering a range of topics regarding trading practices. A copy of the Division's February 7, 1989 letter is included in Appendix B.

Separately, the Commission continues to review its own self-regulatory oversight and direct auditing programs to determine if changes are necessary. This review has received additional attention in the past few months.

### GLOBEX

In February the Commission approved the Chicago Mercantile Exchange's proposed Globex trading system, the first electronic trade execution system at a U.S. futures exchange. Globex represents the first attempt by a domestic futures market to apply innovations in communications and computer technology to an automated international system for screen trading of futures and option contracts.

The system should provide a comprehensive audit trail indicating all order entries, modifications and executions to the nearest second. Such innovation should also enhance the ability of the exchanges and regulators to maintain the integrity of these rapidly growing international markets.

Initially, the Globex system will be limited to certain foreign currency, Eurodollars, U.S. Treasury bills and gold futures contracts trading after regular trading hours. Ultimately, the CME plans to expand the system to include other products, including futures contracts currently traded on other domestic and foreign exchanges.

Innovation of this type is important to the industry as a whole. It is essential if the U.S. is to maintain a competitive edge and remain a leading provider of financial services to the world community.

### OFF-EXCHANGE

In December 1987, the Commission invited public comment on an advance notice of proposed rulemaking for certain off-exchange financial instruments with some futures-like or option-like characteristics. The notice generated much controversy and comment.

After reviewing these comments and consulting with other government agencies, the Commission issued a statutory interpretation clarifying that certain hybrid instruments are excluded from the Commission's jurisdiction and proposed a regulatory exemption for other option-like hybrids that meet certain criteria. The comment period on the proposed rulemaking expires April 6, 1989.

The Commission will continue to be responsive to requests for interpretation and jurisdictional clarification, and will continue to work with other regulatory agencies to avoid regulatory duplication, gaps, or uncertainty.

### INTERNATIONAL ARENA

In addition, the Commission has moved forward in three specific areas important in the international arena.

*Foreign Futures and Options:* The Commission has approved applications from futures and options exchanges in Singapore, Sydney, and Montreal to offer and sell various futures and options contracts in the United States and to permit certain brokers selling their futures and options products to do business in the U.S. under rules applicable in their home jurisdiction. This action represents the first time the Commission has permitted the offer and sale of foreign option contracts to U.S. public customers since the 1978 ban on options.

*International Cooperation Among Regulators:* The Commission has actively encouraged increased cooperation and information sharing with its counterparts in other countries. Cooperation and coordination of this type is important, since fraud knows no boundaries and these markets are economically linked. The Commission is also continuing its efforts to conclude information sharing memoranda of understanding with a number of its foreign counterparts. A lot of work has been done, and we hope that this year will see the successful completion of a number of new agreements.

*New Enforcement Authority:* We are seeking authority from Congress to conduct investigations of violations of foreign law upon the request of a foreign futures authority, whether or not the request involves a violation of U.S. law. I believe that such authority will enhance our ability to engage constructively in international cooperative enforcement activities.

### MARKET SURVEILLANCE

The severe drought of last summer seriously affected the yield and quality of many agricultural commodities. Damage was assessed in varying degrees in different parts of the country throughout the period of the drought.

In response to these severe conditions, between June 1 and October 31, 1988, the Commission reviewed surveillance reports covering expiring futures or option contracts in drought-affected markets on 32 occasions. In addition, the surveillance staff presented summaries of price trends in agricultural cash and futures markets each week. While prices were volatile due to the great uncertainties regarding the true impact of the drought on the 1988 crops, no significant surveillance problems arose during that period.

The Market Surveillance Branch in the Chicago regional office increased its surveillance activities in several areas in response to the greater market volatility during the drought of 1988. Since the drought was expected to have the greatest effect on supplies of wheat, corn and soybeans and their products, market surveillance for those commodities was intensified.

While the Commission undertook these intensified market surveillance activities, I participated on the President's Interagency Drought Policy Committee chaired by Secretary Lyng of the Department of Agriculture.

### PRESIDENTIAL WORKING GROUP

As you know, the Commission participated in the Presidential Working Group on Financial Markets formed in May 1988 to follow-up on the reports and recommendations that arose out of the October 1987 stock market break. The Working Group made several recommendations to improve the functioning of the markets. In the past year, many of the Working Group's recommendations were implemented:

—both securities and futures exchanges have implemented coordinated *circuit breaker* mechanisms cutting across markets.

—steps have been taken to improve the operation of the *credit, clearing and settlement* system to facilitate more efficient cash flows within and among markets.

—regulators approved a one-year pilot *cross-margining* program. And the Commission has issued a request for public comment regarding *futures-style margining* of options.

I believe that the markets are stronger today because of these positive regulatory changes initiated by exchanges and regulators in response to the market break.

### ENFORCEMENT

Finally, I would like to comment on the Commission's enforcement program. The Commission's participation in the Chicago investigation is in keeping with the aggressive role it has taken over the years in prosecuting commodity-related fraud. The CFTC's enforcement program has frequently included joint enforcement activities with the FBI, the U.S. Attorney's offices and other criminal law enforcement agencies, both at the state and Federal level. Indeed, the Commission has long sought the increased involvement of the Department of Justice and other authorities in the criminal prosecution of commodity fraud. This type of interagency approach assures that all available resources are applied to protecting the integrity of the markets and individual customers from fraud and other abuse.

The Commission, in short, is committed to enforcing the Commodity Exchange Act through a strong and aggressive surveillance, oversight and enforcement program in order to insure the integrity of the futures markets and maintain public confidence in those markets.

In conclusion, during the past year the Commission has been active in addressing a variety of issues with wide-ranging implications for the commodity futures and option markets. The events of the last year, particularly involving the undercover investigation in Chicago, underscore the Commission's need to more rapidly increase its resources in the trade practice, surveillance and enforcement areas. The Commission is requesting 555 staff-years and $37,984,000 to oversee and regulate the U.S. commodity futures industry and enforce the law and Commission regulations.

I will be happy to answer questions from the Subcommittee.

[APPENDIX A]

## LETTER FROM ANDREA M. CORCORAN, DIRECTOR, COMMODITY FUTURES TRADING COMMISSION

MARCH 8, 1989.

Mr. WILLIAM J. BRODSKY,
*President, Chicago Mercantile Exchange, 30 South Wacker Drive, Chicago, Illinois 60606*

DEAR MR. BRODSKY. As you know, in January 1986, the Commission amended Regulation 1.35 to require a new performance standard for obtaining trade execution times. Following that date, each exchange implemented a system chosen by the exchange to meet the one-minute trade timing requirement. The Division of Trading and Markets ("Division") has completed its review of the implementation phase of improved audit trail systems at nine exchanges, representing approximately 95% of futures trading in the United States. Based on these reviews and the experience gained in approximately one and one-half years of trading under the new systems, the Division believes that it is appropriate at this time to provide further general guidance to the exchanges concerning certain audit trail and related issues.

In its audit trail reviews to date, the Division focused on the overall performance of audit trail systems, including the effect of system design on system performance, the verifiability of trade time accuracy, and the enforcement of exchange recordkeeping and reporting requirements which provide the source documents for such systems. Through its reviews, the Division confirmed the efficacy of a performance standard, as opposed to a design standard, for achieving materially improved exchange audit trails. Based on its findings, the Division made recommendations tailored to each market's chosen method for compliance. Although the Division found that the availability of one-minute execution times can substantially aid exchange compliance programs and Commission oversight of those programs, further improvements were recommended in all cases.

The Division believes that it is important for exchanges to continue to review existing systems to assure that they are sufficient to permit effective self-regulation. Each exchange for which an audit trail compliance report has been issued already has indicated a commitment to ongoing improvement and refinement of its systems and of their application to trade practice surveillance. However, the Division has identified two areas where further exchange efforts are necessary that we believe your internal review should highlight. These areas are (1) the verifiability of timing data and (2) the accuracy of source records such as order tickets and trading cards. As you know, the Commission's one-minute performance standard applies to all trades. Therefore, the Division believes that your audit trail system's capability to verify accuracy levels should be continually improved and that timetables for specific verifiable accuracy levels should be established for your markets and provided to the Division. The Division also recommends that you assure that you have adequate procedures to prevent the alteration or fabrication of source documents. Procedures considered could include, but ought not be limited to, more frequent collection of trading cards, member use of pre-sequenced and pre-identified (as to the trader) trading cards, and member use or accountability for all trading cards and all lines on trading cards in sequence. Exchanges also should review their rules and compliance systems to assure that there are procedures in place to permit prompt detection and adequate sanction of member noncompliance with recordkeeping and reporting requirements. Although the Division recognizes that a number of exchanges either have some of these procedures in place or currently have begun to address these concerns, your exchange nonetheless should provide an analysis concerning the matters raised herein and the results of your internal evaluation.

Among the important uses of improved audit trails, previously identified have been the ability of such systems to detect and deter dual trading abuses.[1] Separately, Section 4j of the Act indicates that the Commission should evaluate from time to time whether changes in the rules governing dual trading are appropriate. Continuing increases in volume in the futures markets could indicate that exchanges may consider dual trading less useful for liquidity than formerly believed to be the case. Further, it has been suggested from time to time that limiting dual trading could inhibit certain trading abuses and decrease potential conflicts of interest. Therefore, the Division requests that the exchanges collect and analyze current data relative to dual trading in their markets to assist in such an evaluation of dual trading. In this connection, each exchange should submit dual trading data covering a representative period of no less than one week in late 1988 for its most active, a moderately active, and a less active contract. For this purpose, a dual trader should be identified as anyone who executes a customer type indicator ("CTI") 1 trade and a CTI 2, 3, or 4 trade during a single trading session. These data should include, but not be limited to, the following:

---

[1] *See Senate Hearings on Reauthorization of the Commodity Futures Trading Commission,* 65 (February 19, 1986) (statement by then Chairman Susan Phillips regarding the application of audit trail systems to most trading abuses). In the futures markets dual trading consists of trading by floor brokers for their personal accounts and for customers during a specified time period. *See also* Commodity Futures Trading Commission, "A Study of the Nature, Extent and Effects of Futures Trading By Persons Possessing Material, Nonpublic Information" (September 1984) at p. 28.

—the number and percent of dual traders and non-dual traders,

—the following information stated separately for the open, close, least active ½ hour bracket, and most active ½ hour bracket: the volume and number of transactions by dual traders and non-dual traders for each expiration for each contract chosen, separately identified as CTI 1, 2, 3 and 4 trades.

The Division requests that your exchange provide a detailed analysis based on the foregoing data, and such other data as the exchange may deem relevant, together with an explanation of its methodology, as to the current need for dual trading in its markets. Your analysis should address whether or not potential limitations on dual trading could address the types of customer trading abuses actually encountered in exchange compliance programs. To the extent that you believe that restrictions on dual trading might unduly limit liquidity for particular markets, you should consider whether there are other mechanisms, such as the use of marketmakers, sunshine trading, or large or small order trade execution procedures which might serve the liquidity functions which historically have been attributed to dual trading.

Your exchange should respond to the requests made in this letter by no later than April 30, 1989. The information you provide and that provided by each of the other exchanges will be considered, among other things, in determining whether any further action should be taken.

If you have any questions regarding these matters, you may contact me or Alan L. Seifert.

Very truly yours,

ANDREA M. CORCORAN, *Director.*

---

Same letter of March 8, 1989, sent to Mr. William Brodsky from Andrea Corcoran also sent to: H.G. Kawahara, President, Pacific Futures Exchange, 301 Pine Street, San Francisco, California 94104; Arnold F. Staloff, President, Philadelphia Board of Trade, Inc., Philadelphia Stock Exchange Building, 1900 Market Street, Philadelphia, Pennsylvania 19103; Rosemary T. McFadden, President, New York Mercantile Exchange, Four World Trade Center, New York, New York 10048; Lewis J. Horowitz, President & Chief Executive Officer, New York Futures Exchange, Inc., 20 Broad Street, New York, New York 10005; Joseph J. O'Neill, President, New York Cotton Exchange, Four World Trade Center, New York, New York 10048; James L. Lindau, President, Minneapolis Grain Exchange, 400 South Fourth Street, Minneapolis, Minnesota 55415; Michael Braude, President, Kansas City Board of Trade, 4800 Main Street, Suite 303, Kansas City, Missouri 64112; Alan J. Brody, President, Commodity Exchange, Inc., Four World Trade Center, New York, New York 10048; Bennett J. Corn, President, Coffee, Sugar & Cocoa Exchange, Inc., Four World Trade Center, New York, New York 10048; Thomas R. Donovan, President, Chicago Rice and Cotton Exchange, 141 West Jackson Boulevard, Chicago, Illinois 60604; Thomas R. Donovan, President, Chicago Board of Trade, 141 West Jackson Boulevard, Chicago, Illinois 60604; Thomas R. Donovan, President, MidAmerica Commodity Exchange, 141 West Jackson Boulevard, Chicago, Illinois 60604; and Nathan Most, President, Amex Commodities Corporation, 86 Trinity Place, New York, New York 10006.

[APPENDIX B]

## LETTER FROM ANDREA M. CORCORAN, DIRECTOR, COMMODITY FUTURES TRADING COMMISSION

FEBRUARY 7, 1989.

Mr. WILLIAM J. BRODSKY,
*President, Chicago Mercantile Exchange, 30 South Wacker Drive, Chicago, Illinois 60606*

DEAR MR. BRODSKY: As you know, the investigation into floor practices on the Chicago futures markets is not yet complete. Although the Commission has stated expressly that it stands ready to take such actions as may prove necessary and appropriate, regulatory steps at this time would be premature.

In the interim, however, since you have commenced your own self-regulatory review, I am enclosing a list of possible issues to explore in that connection. Although not recommendations, this list of issues is intended to assist you in a forward looking approach to determine what changes in existing systems might be appropriate. I would encourage you to make the full list available to any panel which you direct to deliberate on possible market improvements.

As the list is of general applicability, I am also sending it to all other contract markets for their review. You may recall that a dialogue between the self-regulators and the Commission resulted in a positive response to the issues raised by the market break of October 1987.

Please feel free to contact Alan Seifert directly at (202) 254-8955 if you need more information on these matters.

Sincerely,

ANDREA M. CORCORAN, *Director.*

Enclosure.

---

## LETTER FROM ANDREA M. CORCORAN, DIRECTOR, COMMODITY FUTURES TRADING COMMISSION

FEBRUARY 7, 1989.

Mr. THOMAS R. DONOVAN,
*President, Chicago Board of Trade, 141 West Jackson Boulevard, Chicago, Illinois 60604*

DEAR MR. DONOVAN: As you know, the investigation into floor practices on the Chicago futures markets is not yet complete. Although the Commission has stated expressly that it stands ready to take such actions as may prove necessary and appropriate, regulatory steps at this time would be premature.

In the interim, however, since you have commenced your own self-regulatory review, I am enclosing a list of possible issues to explore in that connection. Although not recommendations, this list of issues is intended to assist you in a forward looking approach to determine what changes in existing systems might be appropriate. I would encourage you to make the full list available to any panel which you direct to deliberate on possible market improvements.

As the list is of general applicability, I am also sending it to all other contract markets for their review. You may recall that a dialogue between the self-regulators and the Commission resulted in a positive response to the issues raised by the market break of October 1987.

Please feel free to contact Alan Seifert directly at (202) 254-8955 if you need more information on these matters.

Sincerely,

ANDREA M. CORCORAN, *Director.*

Enclosure.

---

## LIST OF ISSUES

1. The President's Working Group on, the financial markets specifically recommended prioritizing the movement of all markets to on-line systems. To what extent would on-line systems improve trade, market and financial surveillance?

2. Although audit trails may not reveal all types of violative activity, should renewed consideration be given to what measures may improve existing audit trails? For example, could any of the following changes, some of which have been discussed

in the past by the Commission, adopted by certain markets, or referenced in individual rule enforcement reviews, be useful:

—More frequent trading card submission and collection;

—Continuous trade matching;

—Collecting additional data, including timing and sequencing data;

Electronic facilitation of order routing or trade timing, including a unified timing system; and

—Other mechanisms to prevent after-the-fact altering of trade data.

3. Should the role of broker group trading activity be re-evaluated and should further limitations be applied?

4. The Congress, the Commission and the exchanges have examined dual trading several times in the past. Should dual trading be reexamined, in particular should dual trading be limited or prohibited in more liquid contracts, more liquid contract months, the spot month, during specific periods such as the opening and the close, or exchange-wide?

5. Should so-called "as of" trades be eliminated or limited to certain situations? Should the exchange require a trade either to be cleared or broken by next day settlement?

6. Should CTI 3 trades (trades for another member on the exchange floor) be limited or prohibited? For example should orders be required to be prepared at a firm order desk and processed for such trades as if they were CTI 4 trades (trades for a customer)?

7. Should the usefulness of single price opening and closing procedures or average price order procedures be explored for certain contracts?

8. Should price change systems be designed to include all trades, not just price changes, and other data regarding reported trades on exchange time and sales reports?

9. Should special recordkeeping be required for the opening and closing periods or should limitations be imposed on participating in those trading periods?

10. Should firms have more responsibility to supervise brokers whose trades they guarantee?

11. Should individuals abusing customer orders be prohibited permanently from handling customer trades?

This list, although not necessarily exhaustive, is intended to be broad, and may in some cases represent alternate approaches.

## UNDERCOVER INVESTIGATION

Senator **Burdick**. Chairman Gramm, there is much curiosity about the involvement of CFTC and the FBI sting operations earlier this year. When was CFTC originally apprised of the Justice Department's investigation?

Dr. **Gramm**. The Commission has been involved and has participated in the investigation since the beginning of the investigation, and as a matter of fact, the Justice Department has stated that they could not have undertaken the investigation without our expertise and our assistance.

Senator **Burdick**. I do not suppose you could give me any data or anything like that, but when did you first know about their investigation?

Dr. **Gramm**. Well, as you know, in enforcement activity, particularly in criminal activity, the Justice Department is concerned that details are not disclosed publicly, because it may hinder the investigation and subsequent prosecution, so they have explicitly asked us not to disclose information that could jeopardize the investigation, and that includes the information about the scope as well as how the investigation got started.

And I would like to——

Senator **Burdick**. This information is not for the public. It is for you.

Dr. **Gramm**. That is right. And we have been involved in the investigation since the beginning.

I have, if you would permit me, a letter from the Justice Department that outlines their concerns about disclosure of the information concerning the investigation.

Senator **Burdick**. How much assistance did CFTC's Division of Enforcement provide to the FBI?

Dr. **Gramm**. We have provided information and assistance to the FBI from the beginning, and we continue to do so now. Again, I understand your interest in the information, but the Justice Department has asked us not to disclose information that could jeopardize not only the investigation but also the further prosecution of the cases, and I have a letter to that effect that I would like to put in the record for you.

They have also stated in the letter that they would be willing to brief members of not only our oversight committees, but Members of Congress at an appropriate time as to our involvement.

Senator **Burdick**. I understand that the Justice Department does not want us to ask any questions in this area at this time?

Dr. **Gramm**. At this time. I think I understand your need to ask the questions. However, at this time they feel that disclosure of information, particularly about the scope and how the investigation got started, may well jeopardize the investigation and subsequent prosecution of cases.

Senator **Burdick**. Well, we will just have to ask the questions later.

[The letter follows:]

### Letter From Joe D. Whitley, Acting Associate Attorney General

March 9, 1989.

Hon. Richard G. Lugar,
*Ranking Minority Member, Committee on Agriculture, Nutrition, and Forestry, United States Senate, Washington, D.C. 20510-6000*

Dear Senator Lugar: This relates to the hearings of the Committee on Agriculture, Nutrition, and Forestry with respect to trading practices in the commodity futures markets.

As you know, the Commodity Futures Trading Commission (CFTC) has been involved in the investigation of illegal floor trading practices in Chicago from the beginning and continues to cooperate with our investigators and prosecutors. I am pleased to emphasize the observation already made by Mr. Anton R. Valukas, the United States Attorney in Chicago, that the investigation would not have been possible without the Commodity Futures Trading Commission. A copy of Mr. Valukas' letter of February 2, 1989, to Chairman Wendy L. Gramm is enclosed.

While I recognize the Committee's immediate interest in this matter, neither the Department nor the Commission may at this time disclose information which could jeopardize the ongoing Grand Jury investigation or, indeed, future prosecutions. This necessarily encompasses information that may reveal the scope or origin of the investigation, including the way in which the investigation has been conducted. We are optimistic that we will in due course be in a position to inform the Committee in considerable detail regarding the investigation.

In the meantime, the Department of Justice joins Mr. Valukas in expressing gratitude and appreciation for the continued assistance of the CFTC in this important investigation.

Sincerely,

Joe D. Whitley,
*Acting Associate Attorney General.*

Enclosure.

LETTER FROM ANTON R. VALUKAS, U.S. ATTORNEY, NORTHERN DISTRICT OF ILLINOIS

FEBRUARY 2, 1989.

MS. WENDY L. GRAMM,
*Chairperson, Commodity Futures Trading Commission, 2033 K Street, NW., Washington, DC 20581*

DEAR MS. GRAMM: On behalf of the Federal Bureau of Investigation and my office, I want to take this opportunity to again thank you for your support of the Grand Jury investigation of illegal floor trading procedures.

As you know, prior to undertaking the investigation, we sought the assistance and expertise of your agency. Without the assistance and counsel of your agency, this investigation would not have been possible. The men and women of your agency are to be commended for their invaluable and continuing assistance in this investigation.

Sincerely yours,

ANTON R. VALUKAS,
*United States Attorney.*

### DUAL TRADING

Chairman Gramm, your continuing assessment of dual trading, particularly in response to recent trading abuses leads me to note that this issue has been a recurring topic of discussion, at least since the authorization of CFTC in 1974.

Does CFTC have authority to eliminate dual trading?

Dr. GRAMM. Yes; the CFTC does have the authority to eliminate or limit dual trading. I would point out that I understand that Congress has been interested and indeed has requested that the Commission from time to time review dual trading as we are doing now.

Senator BURDICK. Does CFTC's present decision or position to continue to permit dual trading indicate that dual trading has significant advantages for the future markets?

Dr. GRAMM. The Commission has reviewed dual trading in the past, and we are also reviewing it again in light of the recent reports of the Chicago investigation.

I do believe it is true that dual trading does offer some significant advantages in providing liquidity to certain markets, particularly in markets that are quite small; that allowing traders to trade for themselves when there are not very many customer orders does help to provide liquidity to markets. Indeed there are some contract markets that have raised the concern about their viability if dual trading were eliminated.

Senator BURDICK. Well, I ask your opinion. Can dual trading be adequately policed so there's no need for eliminating the practice entirely?

Dr. GRAMM. I think that the answer to that question is something we are currently evaluating and, frankly, I think that at this point we believe that the enhanced audit trail information may allow us to monitor dual trading more carefully, but I think that it is still early to tell. We are waiting to see what additional information we do get as a result of the FBI undercover investigation so that we may determine in greater detail whether or not we need to indeed limit dual trading more extensively than it is currently limited.

Senator BURDICK. What puzzles me is that we have had a situation like this before the committee before. Last year and I think the year before. Are we making any progress in this area? Are we investigating all the time? Do we get anything definite?

Dr. **Gramm**. Are you referring to the issue of dual trading in particular?

Senator **Burdick**. Yes.

Dr. **Gramm**. I believe that the Commission has reviewed dual trading in the past, and I think one of the purposes of the enhanced audit trail system, which has been implemented only in the past 18 months or so, is to be able to monitor dual traders more carefully and to detect other kinds of trading abuses as well. At this point we are still gathering information, and we will be in a better position to determine whether or not dual trading should be further limited after all of the information is analyzed.

### AUDIT TRAIL

Senator **Burdick**. I have heard it said that perhaps the most important tool in the detection and proof of trading abuse is the improved audit trail. As a result of CFTC's initiative 3 years ago, Chicago Exchange has implemented their current computerized trade reconstruction systems. Has there been much progress in improving the audit trail within the last 2 years?

Dr. **Gramm**. Yes; there has been substantial progress. Two years ago the record of individual trades was only accurate to within a 30-minute time bracket. With the enhanced audit trail, we can now time trades to the nearest minute, sequence them more accurately, and thereby potentially find more trading abuses.

I should point out that these systems are still being improved, even over recent months. The systems are new, they are still being improved, and the exchanges are making better and better use of the really voluminous data that are available from the audit trail system.

Senator **Burdick**. If I have any comment or criticism, it looks as if we are always in checking. We never get things done. We have been at this for 3 years.

Dr. **Gramm**. Well, I think in some sense our job really never is done. These markets always do change and we are always looking for better ways of monitoring them to make sure that they maintain their integrity and do not have the kind of fraud and abuse that would hurt customers.

I think, if I could add another point, that this FBI undercover-type operation is another example of how we use very innovative tools, especially innovative for financial markets, to help not only root out fraud and abuse, but also to give us even more information about how well our systems work. This investigation will ultimately provide us with a lot of valuable information that may well cause us to change regulations and change procedures even more.

### BUDGET REQUEST

Senator **Burdick**. And now you want how much more than you originally requested?

Dr. **Gramm**. We are asking for 10 staff-years more than we originally requested which comes to $585,000.

Senator **Burdick**. Will that do the job?

Dr. **Gramm**. Well, let us say for this fiscal year we believe that that is the amount that we can use efficiently and effectively. It could well be that next year and in the following years we may request more. But as of this time we believe that the 10 extra staff-years, which is on top of the 10 extra that we requested originally, should do the job.

Senator **Burdick**. Well, department after department have been asked to buckle up, tighten up that belt.

Dr. **Gramm**. We understand that.

Senator **Burdick**. Now, you want extra money this year and you may want extra money next year, is that correct?

Dr. **Gramm**. That is correct.

Senator **Burdick**. You may want extra money the year after that.

Dr. **Gramm**. That is correct. But suffice it to say that the Commission does recognize that all agencies and the whole Government is in tight budget times.

Senator **Burdick**. That is why we have to look at your request very carefully.

Dr. **Gramm**. We understand that.

### GLOBEX

Senator **Burdick**. With the advent of Globex, the electronic futures trading system developed by the Chicago Mercantile Exchange, some critics have voiced concern that this new system threatens the traditional open outcry pit trading. Do you believe that this concern is warranted?

Dr. **Gramm**. First of all, let me say that Globex is an innovative new concept. It is the first time that an exchange has tried to do screen trading. It is approved for use only after regular hours at this time.

My view is that whenever you have innovative new technology used in an industry it can have an effect on the old tried-and-true methods. Now, how much of a real threat it is really depends on a lot of factors that are difficult for me to predict at this point in time. But we have often seen different kinds of technologies work and thrive side by side in an industry because both types of technologies provide value to the industry. It could well be that that situation could occur here as well.

Senator **Burdick**. Would it be beneficial to extend the hours of trading in the pits concurrently with Globex trading?

Dr. **Gramm**. That is a difficult question to address. I think that it depends, really, on what the customers feel is beneficial.

We do have extended hours trading on the Chicago Board of Trade, and I believe that the exchanges, as well as customers, have found that to be beneficial. This is a business-related issue that the exchanges will have to decide if they believe that extended trading hours would be beneficial; they can come forward and ask for the changes that would allow them to extend their trading day.

Senator **Burdick**. What impact would Globex have on the demand for CFTC surveillance and enforcement activities? Would more staff be needed and if so, how much and in what departments?

Dr. **Gramm**. Well, we have reviewed Globex very, very carefully, and we believe that we can accommodate the review of Globex within the staffing request we have already made.

Senator **Burdick**. Well, that is good.

Could the futures market be exposed to a greater potential for abuse if electronic trading were to increase substantially? Would CFTC be prepared to respond adequately?

Dr. **Gramm**. In our review of Globex, we have reviewed this question very, very carefully. I would say that there are some areas where an electronic trading system like Globex—because it can provide even better audit trail information—could deter some kinds of trading abuses partly because it takes out of the trading equation the personal nature of a trade. When you put your order into a computer, you do not know necessarily who is opposite your order, so it is more difficult, therefore, to prearrange a trade, which is a trading abuse. So, in some sense computerized trading could reduce the potential for certain kinds of trading abuses.

Obviously, if the volume of computerized trading should increase, I think that we will need to expand our surveillance and monitoring capability, particularly in the information resources area, in the specialized computer area. We are planning to look at that very carefully.

## SUBMITTED QUESTIONS

Senator **Burdick**. Dr. Gramm, we have a whole hat full of questions here for you. We have other witnesses appearing and we have a time question. We would be glad to submit further questions to you if you will give us some timely answers.

Dr. **Gramm**. Thank you. We would be happy to provide answers as quickly as we can.

Senator **Burdick**. Fine. Thank you.

Dr. **Gramm**. Thank you.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

## QUESTIONS SUBMITTED BY SENATOR BURDICK

### GLOBEX

Question: With the advent of Globex, the electronic futures trading system developed by the Chicago Mercantile Exchange, some critics have voiced concern that this new system threatens traditional "open outcry" pit trading. What would be the impact on CFTC resources of extended pit trading hours?

Answer: Based on existing volume and levels of participation, the impact on CFTC resources of extended hours pit trading has been minimal. If volume in the evening sessions were to increase substantially, or regulatory problems were to arise in connection with such trading, the Commission would reevaluate the need to maintain employees on duty during extended hours.

Question: Could the futures market be exposed to greater potential for abuse if electronic trading were to increase substantially? Would the CFTC be prepared to respond adequately?

Answer: The Commission believes that electronic trading poses different risks from floor trading systems. Some trade abuses, such as certain types of bucketing, will be impossible to commit through electronic systems which require all orders to be exposed to all other orders at the central computer. Similarly, prearranged trading will be more difficult because it will be more difficult to determine who is the opposite trader. However, because trading on electronic systems will not be conducted through brokers on the exchange floor, certain other types of trading abuses may be more difficult to detect through visual surveillance. Also there are computer security and access issues that require special safeguards to be in place. Electronic trading, however, has the countervailing advantage that trading abuses will be more easily detected through the real-time audit trail generated by the system. Electronic systems can produce an audit trail which precisely times and sequences each order entered and each trade executed. Electronic trading systems should facilitate Commission surveillance generally, although the Commission will have to modify its oversight programs to address issues particular to such systems. At such time as trading through electronic systems begins to occur at significant volumes, there may be a demand for additional Commission resources. Those systems, however, will not begin trading until late 1989 or early 1990.

### HYBRID INSTRUMENTS

Question: Chairman Gramm, I understand that the Commission is undertaking steps to exempt certain instruments linked to interest rates and commodity prices from its regulatory jurisdiction.

What has prompted your decision to exempt these "hybrid" investments from CFTC jurisdiction?

Answer: In recent years, in response to legitimate commercial interests, hybrid instruments have developed that couple elements of futures or commodity option contracts with debt obligations or other interests that are not subject to regulation by the Commission. The development of these instruments gave rise to uncertainty concerning their treatment by the Commission under the Commodity Exchange Act. In response, the Commission has issued proposed regulations and an interpretation in order to provide a degree of regulatory certainty and to enhance the ability of firms to raise capital and manage risk. The proposal would exempt from Commission regulation certain hybrid instruments that have limited commodity option components. The interpretation recognizes a regulatory exclusion for certain other hybrid instruments that are bona fide debt or depository instruments that also have commodity futures or options characteristics. In taking these steps, the Commission is trying to harmonize regulation among various interested federal agencies in order to reduce regulatory duplication but avoid regulatory gaps.

Question: What impact will this decision have on your agency's activities and workload?

Answer: The Commission's statutory interpretation and proposed exemption may, in certain respects, result in a very modest reduction in the Commission's workload in that these recent actions provide generalized treatment of issues previously addressed on a case-by-case basis. Nonetheless, the Commission has committed, and will continue to commit, considerable effort to reviewing and analyzing the jurisdictional and other issues concerning off-exchange trading instruments. The goal of the Commission is to develop regulatory policies in close coordination with other regulators which will provide for the continuing development of new and innovative financial products while at the same time carrying out the mandates of the Commodity Exchange Act. The agency has established a task force of ten senior staff members which over the past two years has met regularly to address issues relating to off-exchange instruments. That task force, as well as other Commission staff and the Commission itself, will continue to address these issues as they arise.

## SELF-REGULATION

Question: The volume of contracts traded in the futures exchanges has tripled in the past ten years, yet CFTC's budget has remained relatively stable. In light of the responsibilities of self-regulation accepted by the exchanges and the National Futures Association, do you believe the CFTC budget has been adequate?

Answer: One of the many reasons why the Commission has been able to keep abreast of the rapidly growing futures industry with only modest increases in staff is because the exchanges and the National Futures Association have expended considerable resources in carrying out their self-regulatory responsibilities. This reliance on self-regulation has enabled the Commission to concentrate its resources on conducting vigilant oversight of the exchanges and NFA's programs and of providing a strong enforcement presence to underscore the importance of compliance with the Commodity Exchange Act. The delegation to NFA of certain specific responsibilities formerly carried out by the Commission, such as registration, has enabled the Commission to expand its programs in response to changes and growth in the industry. Examples of such changes include the internationalization of the markets, computerized trading, and the increased need for regulatory coordination between the stock and futures markets to name just a few.

Another reason that has kept CFTC staff increases to a minimum is the increased reliance on computerization at the CFTC and the self-regulatory agencies. Examples of this are increased productivity in the area of trade practice investigations, increased productivity due to the expanded use of personal computers by professionals and support staff, receipt of large trader information in machine-readable form and the electronic integration of futures, options and cash prices and position data.

Question: Was your request for an additional 10 staff years for contract market oversight and enforcement prompted by the outcome of the Justice Department's "sting" operations earlier this year?

Answer: The Commission's budget request for an additional ten staff-years submitted to OMB on March 29, 1989, was prompted in part by the undercover investigation in Chicago. While the outcome of the investigation is not known at the present time, the Commission wants to have the resources needed to address the issues which have become a focus of concern as a result of that investigation. In particular, the Commission is determined to increase its oversight resources and to increase trade practice surveillance as well as the investigation and prosecution of trade practice abuses. The increase requested will also provide the Commission with the resources needed to analyze and implement the various proposals for reform that are growing out of the inquiry and the Commission's own evaluation of its oversight programs.

## MARKET SURVEILLANCE

Question: Acknowledging that January and February were record volume trading months, do you believe the CFTC can maintain adequate surveillance standards if this trend continues?

Answer: The Commission has and will continue to maintain high surveillance standards notwithstanding the increases in the volume of futures and option trading. However, as our budget request reflects, some staff increases are needed to expand the scope and depth of our regulatory programs in certain areas. The Commission does two general types of surveillance: surveillance designed to detect and prevent price manipulation, and surveillance designed to detect and prosecute trade practice abuses. In developing these programs, the Commission has incurred significant fixed costs. For example, in recent years we have devoted substantial resources to developing and upgrading our computer capabilities in both areas. Now, however, the incremental costs of these programs are much less significant than the increase in volume because of economies of scale. However, some staff increases are needed to employ these surveillance systems more thoroughly and to investigate and prosecute detected trading abuses.

### STAFFING DISTRIBUTION

Question: Your original request asks for 10 additional full-time staff -- six in the enforcement area. According to your geographic distribution of staff, eight of your new staff would be located in Washington, D.C. You have also indicated a need for 10 staff in addition to that request. What would be the total geographic distribution of staff for 1990, including your supplemental request?

Answer: Approximately 60% of the Commission's staff will be employed in Washington, followed by 19% in Chicago, 14% in New York City, 5% in Los Angeles and less than 2% in Kansas City and Minneapolis.

Question: What positions would these new staff hold?

Answer: The ten additional staff-years requested would be held by professionals in positions such as attorney, futures trading investigator and auditor in the Divisions of Trading and Markets and Enforcement.

## QUESTIONS SUBMITTED BY SENATOR HARKIN

### STAFFING

Question: The Commission has requested an additional ten staff-years and additional funds to pay salaries and related costs. Has the Commission filled all positions that were provided for in the Commission's budget for fiscal year 1989?

Answer: The Commission received funding for an additional 17 staff-years for a total of 535 staff-years in FY 1989. We have been actively recruiting to fill these positions during this year. We cannot, however, continue to hire much beyond our current staffing level of 525 staff-years because the proposed budget reduction of 1.1% will reduce our available funding to 527 staff-years in FY 1989.

Question: What specific plans does the Commission have for using the additional staff that will be hired with the funding for ten more staff years?

Answer: The Commission requested 10 staff-years in its original FY 1990 request and 10 more staff-years in its budget amendment. Of these 20 staff-years, twelve will be devoted to trade practice matters, including five to trade practice surveillance and seven to the investigation and prosecution of trade practice abuses. The remaining staff-years will be devoted to expanded market surveillance; intensified financial surveillance, especially during periods of volatile markets; investigation and prosecution of other types of violations such as alleged fraud by registrants; and increased support to all program areas.

Question: Is the addition of these new staff people the first step in enlarging the staff and taking on more work?

Answer: The Commission will consider additional staffing requests during the preparation of its FY 1991 budget request, depending on our further experience in fulfilling the statutory mandate or in response to possible statutory amendments. We do not have any plans presently to request additional staffing in FY 1990.

Question: Does the Commission plan to put more staff on the exchange floors?

Answer: In order to address the trade practice issues that have become a focus of public concern, the Commission amended its proposed budget for fiscal year 1990 to request 20 additional staff-years over its 1989 budget. Of those 20 staff-years, five would be devoted to trade practice surveillance and would be assigned to activities intended to detect and deter potential abuses. In this regard, the Commission is exploring increased floor surveillance coverage.

The various commodities exchanges also are examining possible increases in their respective floor surveillance activities. In this connection, exchanges are considering, with the encouragement of the Commission, the establishment of a Joint Compliance Committee through which participating self-regulatory organizations could share information about their compliance procedures and systems and determine the extent to which their programs, including their floor surveillance activities, should be coordinated or made more uniform. The proposed Joint Compliance Committee may also facilitate coordination of floor surveillance efforts with the Commission, thus resulting in more efficient use of resources.

Question: Will the Commission bring more cases?

Answer: The additional staff years requested should enable the Commission to pursue additional cases or complete cases more quickly.

Question: Will the Commission undertake more investigations?

Answer: The situation with investigations will be the same as with cases. Moreover, the additional staff years should enable the Commission to maintain its commitment to the undercover investigation in Chicago.

Question: Please provide any analysis performed by the Commission regarding the need for additional staff and how the number of staff requested was arrived at.

Answer: Two years ago, prior to formulating its budget request for FY 1989, the Commission assessed its needs in all areas. As a result of that assessment, the Commission requested funding for an additional 27 staff years, or 545 staff years, in its FY 1989 budget request to OMB. OMB granted the full request and included the funding for 545 staff years in the President's Budget. When the Commission was preparing its budget request for FY 1990 in the summer of FY 1988, the Commission concluded that if funding were provided for an additional 27 staff years in FY 1989, that it would not need additional staff years in FY 1990. As a result, the Commission's original request to OMB for FY 1990 reflected a staff year level of 545 with no increase in staff years over the President's Budget for FY 1989. When the Commission subsequently received funding from Congress for only 535 staff years in FY 1989, OMB included funding for the additional 10 staff years in the President's budget for FY 1990 in order to bring the Commission up to the 545 staff year level originally requested in FY 1989. The additional 10 staff-years which we are now requesting over and above the President's budget are the number we feel we can efficiently add to our staff.

Question: Please provide the Commission's analysis of the adequacy of staffing at the present time and if the budget request is appropriated. Will the Commission have enough staff to handle its work, particularly in view of recent developments with the Chicago exchanges?

Answer: The Commission believes that its authorized staff year level in FY 1989 has been adequate for it to carry out its responsibilities. However, in order to address issues that have become a focus as a result of the undercover investigation in Chicago, the Commission determined that it needed to increase its oversight resources over and above the increase requested for FY 1990. As a result, the Commission filed a budget amendment with OMB requesting an additional ten staff years for FY 1990 to increase the level of trade practice surveillance, floor surveillance, and investigation and prosecution of trade practice abuses. Furthermore, the Commission is currently conducting a thorough review of its programs in order to determine what, if any, regulatory or legislative changes are warranted. If changes eventually are proposed which have resource implications, the Commission may request additional staff-year funding in fiscal year 1991.

---

## QUESTIONS SUBMITTED BY SENATOR KERREY

### DEBT COLLECTION

Question: It is my understanding that when the CFTC imposes a fine for a violation of the Commodity Exchange Act, the matter is turned over to the Justice Department, which then brings suit to force collection.

However, it is also my understanding that the Justice Department has failed to enforce numerous individual fines because they each are in amounts of less than ONE HUNDRED THOUSAND DOLLARS. Apparently Justice believes that fines of less than $100,000 do not warrant collection efforts.

My question to you is: Have I accurately described the situation? And if so, can you provide me with a list of all outstanding fines that the Department of Justice apparently is not pursuing? Is it true that many of these fines amount to several tens of thousands of dollars?

Answer: Whenever a fine imposed by the Commission becomes overdue, the Commission takes steps to collect the debt, including issuance of demand letters and referrals to private collection agencies. If these efforts are unsuccessful, the Commission refers the debt to the Department of Justice for commencement of judicial proceedings to collect the debt. This referral is required by our statute and other federal statutes concerning debt collection. Commission records reflect that the Department of Justice has collected on debts of less than $100,000. As of September 30, 1988, the Commission had 42 referrals totalling $3,826,000 at the Department of Justice for collection. Based on information currently available, we believe the probability of collecting the full $3.8 million is low because many of the debtors have declared bankruptcy, gone out of business, are incarcerated or the debts are otherwise uncollectible.

Once a case has been referred to the Department of Justice, action may be initiated to obtain judgment in federal court to collect the penalty. If Justice requires additional information or is unable to obtain judgment for other reasons, it so notifies the Commission. When judgment is not obtained, and no further information is needed, Justice will authorize the Commission to write off the debt and close the case.

Justice advises the Commission of all judgments obtained. An interagency transfer of funds report is sent to the Commission to report all payments Justice has received in response to the judgments it obtains. All funds collected either by the Commission in its internal collection efforts or by Justice are deposited with the Department of Treasury.

Attached is a list of the 42 cases pending at the Department of Justice as of September 30, 1988.

[The information follows:]

CIVIL MONETARY PENALTIES
Schedule E: Collections referred to the Department of Justice as of September 30, 1988

| Docket No | Respondent Name | Order Date | Order Amount | Principal Outstanding | Date Ref Justice |
|---|---|---|---|---|---|
| 77-22 | Muller, John J. | 03/22/80 | $7,000 | $7,000 | 01/01/83 |
| 78-19A | Morse, James | 08/12/82 | $20,000 | $20,000 | 01/01/83 |
| 78-19B | Porteuse, Peter | 08/12/82 | $20,000 | $20,000 | 01/01/83 |
| 78-19C | Webster, James | 10/05/78 | $20,000 | $20,000 | 01/01/83 |
| 78-4JF | Baksheef, Constantine C. | 03/20/86 | $70,000 | $70,000 | 07/31/86 |
| 78-4dH | Lincolnwood Commodities, Inc. | 01/31/84 | $100,000 | $100,000 | 01/25/85 |
| 78-54 | Rothlin, Robert | 01/03/84 | $25,000 | $25,000 | 07/31/86 |
| 79-26&53 | Chartered Systems | 07/17/79 | $35,000 | $35,000 | 02/15/85 |
| 79-34 | Caceras, Dr. R. Falla | 10/26/83 | $200,000 | $200,000 | 01/25/85 |
| 79-37 | Sawyer, Steven | 05/22/85 | $100,000 | $100,000 | 07/31/86 |
| 80-05 | Turkish, Norman | 08/19/82 | $50,000 | $50,000 | 01/01/83 |
| 80-07 | Allen, Richard | 05/23/85 | $100,000 | $100,000 | 07/31/86 |
| 80-19 | Jarboe, James P. | 06/16/81 | $5,000 | $5,000 | 01/01/83 |
| 80-20B | Sigler, David | 10/28/85 | $5,000 | $5,000 | 09/30/86 |

| Docket No | Respondent Name | Order Date | Order Amount | Principal Outstanding | Date Ref Justice |
|---|---|---|---|---|---|
| 81-18 | Smith, Philip M. | 11/14/85 | $25,000 | $20,000 | 07/31/86 |
| 81-21 | Nesbit, Paul | 08/05/85 | $25,000 | $25,000 | 07/31/86 |
| 82-08 | EDP Commodity, Inc. | 05/19/82 | $10,000 | $10,000 | 01/01/83 |
| 82-13 | Sweeney, James J. | 10/17/83 | $700,000 | $700,000 | 01/25/85 |
| 82-22A | Murphy, James T. | 03/21/85 | $37,500 | $37,500 | 09/30/86 |
| 82-22B | Sutton, Ross | 03/21/85 | $40,500 | $40,500 | 07/31/86 |
| 82-23A | Benjamin, Maurice | 02/23/84 | $4,000 | $4,000 | 07/31/86 |
| 82-23B | Savage, Jack | 02/23/84 | $40,000 | $40,000 | 07/31/86 |
| 82-28 | Greenberg, Robert | 12/17/85 | $10,000 | $10,000 | 07/31/86 |
| 82-43 | John F. Durkin & Co. | 05/02/84 | $1,500 | $1,500 | 07/31/86 |
| 83-01 | Blumeyer-Leckar-Krawisz | 06/08/83 | $100,000 | $100,000 | 05/30/85 |
| 83-19A | Charrier, Michael | 02/10/84 | $100,000 | $100,000 | 01/25/85 |
| 83-19B | Hardwick & Wells & Winth. | 02/10/84 | $100,000 | $100,000 | 01/25/85 |
| 83-19C | Hardwick & Wells Comm. | 02/10/84 | $100,000 | $100,000 | 01/25/85 |
| 83-19D | Thyssen, Elizabeth A. | 02/10/84 | $100,000 | $100,000 | 01/25/85 |
| 83-34 | Massaro, James W. | 07/07/83 | $100,000 | $100,000 | 01/25/85 |
| 83-40A | Midwest Commodity Corp. | 09/21/83 | $500,000 | $500,000 | 01/25/85 |
| 83-40B | Socha, Richard S. | 09/21/83 | $500,000 | $500,000 | 01/25/85 |
| 83-41A | Quinn & Co. | 10/25/83 | $100,000 | $100,000 | 07/31/86 |
| 83-41B | Quinn, Terrence | 12/31/84 | $100,000 | $100,000 | 07/31/86 |
| 83-44A | Financial Alternatives | 05/04/84 | $100,000 | $100,000 | 07/31/86 |
| 83-44B | Howe, Rose M. | 10/29/85 | $5,000 | $5,000 | 07/31/86 |
| 83-44L | Howe, William | 10/29/85 | $100,000 | $100,000 | 12/22/86 |
| 84-04 | Bamaodah, Ahmed | 04/18/86 | $30,000 | $30,000 | 09/30/86 |
| 84-27 | Puncerelli, Kenneth J. | 01/08/86 | $45,500 | $45,500 | 07/31/86 |
| 84-39 | Sarmad, Syed | 05/06/85 | $10,000 | $10,000 | 07/31/86 |
| 85-09 | Palermo Financial Syndicate | 04/24/85 | $50,000 | $50,000 | 07/31/86 |
| 85-13 | Miller, Stephen A. | 07/03/85 | $40,000 | $40,000 | 07/31/86 |
|  |  |  | Total Collections Outstanding | $3,826,000 |  |
|  |  |  | Count | 42 |  |

BUDGET AMENDMENT

Question: I note in your testimony that you have submitted an amended budget request asking for 10 additional staff people in Fiscal 1990. In view of recent developments, I think an increase appears warranted.

However, I believe the agency currently has just 524 staff, even though it is authorized and funded to employ 545. If that's the case, shouldn't you fill the current positions before asking for more money?

Answer: The President's budget request for CFTC for FY 1989 was reduced by Congress by more than $800,000 in the appropriation process. Additionally, the Commission was required to absorb the FY 1989 general pay raise which amounted to approximately $700,000. As a result, while the Commission is authorized to hire up to 545 staff-years in FY 1989, it was funded to employ only 535 staff-years. Moreover, the Commission is reluctant to hire up to this level because of the possibility that the Commission will become subject to the 1.1% reduction or proposed budgetary offset in FY 1989, it will be able to fund only 527 staff-years.

The Commission has requested funding for 555 staff-years for FY 1990. It will take a concerted effort by all offices of the Commission to achieve a net increase of nearly 30 staff-years in FY 1990, and we believe we can meet that target.

---

## QUESTIONS SUBMITTED BY SENATOR COCHRAN

### FUTURES MARKETS

Question: The commodity markets have been an important marketing mechanism for agricultural communities for more than 100 years. Futures markets have proven to be an efficient system that has traditionally assured farmers, buyers and sellers a competitive price for their products. The recent attention on some abuses of the commodity markets causes me to wonder if the Commodity Futures Trading Commission was doing everything possible to eliminate illegal and improper trade practices. Have you fully enforced the laws and regulations governing trading that pertain to CFTC?

Answer: The Commission conducts its own civil enforcement program and routinely cooperates with federal and state civil and criminal enforcement officials to encourage and facilitate enforcement efforts. The Commission's participation in the undercover investigation concerning trading practices on the Chicago exchanges underscores our commitment to pursue fraud and abuse aggressively. The funds for the nine additional enforcement staff years in the Commission's budget request will enable the Commission to pursue additional cases and investigations or to complete them more quickly.

### COMMISSION OVERSIGHT

Question: How well are the exchanges carrying out their obligations to police the markets?

Answer: The Commission's Division of Trading and Markets' current assessment, based on its ongoing rule enforcement reviews of exchange programs, is that all exchanges have in place the program components to conduct a trade practice surveillance program which meets the requirements of the Commodity Exchange Act and Commission regulations and can be used to detect certain patterns of potential trading violations.

The relative effectiveness of exchange programs varies, and, through its rule enforcement reviews and other programs, the

Division identifies areas in need of improvement in particular exchange programs. The exchanges generally have responded affirmatively to the Division's recommendations. There generally have been substantial increases in the resources and personnel dedicated to exchange compliance activity following any Division's recommendations calling for such increases.

For example, as a result of Commission oversight, both through the rule enforcement review process and rulemaking, the exchanges have instituted significant improvements in their programs for policing their markets. These improvements include the one-minute audit trail and computerized trade practice surveillance programs.

The results of the undercover investigation in Chicago may provide further information regarding how the exchanges and the Commission should police the markets and any needed changes will be implemented.

Question: How do you assess the effectiveness of your oversight programs?

Answer: We assess the effectiveness of our oversight programs based upon the program's capacity to achieve market integrity and customer protection effectively. In this connection, the Commission has used all of the tools at its disposal including cooperating in criminal enforcement investigations to be certain that its program appropriately addresses potential for abuses. Because of Commission oversight actions, including public reports issued on the design and execution of exchange self-regulatory systems, we have seen marked improvements in each exchange's compliance program, including the implementation of computerized surveillance systems and improved audit trail systems.

The Commission believes that the efficacy of its oversight is reflected by commodity markets' relatively small number of customer complaints, high degree of liquidity and low number of financial problems during the October 1987 market break and 1988 drought--each reflecting public customer belief in the markets' overall integrity. In this connection, the Commission also has received favorable reports on the Commission's intra-market regulatory efforts from outside parties including the Brady Commission and General Accounting Office; made significant additions and refinements to its own regulatory program, extending it to previously unregulated areas such as foreign futures and options, and broker agents to prevent regulatory gaps; and acted responsibly to make needed changes when possible weaknesses were identified as in the case of the Volume Investors default. The Commission expects to further refine its program as necessary based on information that may become available concerning the ongoing undercover investigation in Chicago.

Question: What can be done to regain the lost public confidence in the commodity markets?

Answer: We believe that the public continues to have confidence in the commodity markets. Available data indicate that trading volume in the commodity markets has increased, despite widespread publicity concerning the Department of Justice's Chicago investigation. Futures and options trading volume for the first two months of 1989 was up 14.82 percent over the same period a year earlier. At the Chicago Mercantile Exchange, monthly futures and options volume for February and March 1989 was up an average of 19.4 percent over January 1989, when the Chicago investigation was announced. At the Chicago Board of Trade, February and March monthly volume was down an average of less than 3% from January 1989.

We believe that continued aggressive oversight by the Commission will enhance public confidence in the commodity markets. The National Cattlemens Association has expressed its support for the current undercover investigation in Chicago and the Commission's participation in it and we believe that other market users are likely to concur in those views. The Commission has requested additional funding to enable it to devote greater resources to trade practice and enforcement programs to assure that its oversight programs fully address any concerns arising from the Chicago investigation.

In addition, in response to the undercover investigation in Chicago, the Chicago Board of Trade, the Chicago Mercantile Exchange and other futures exchanges have established internal review committees to determine whether enhancements of their self-regulatory programs are warranted to address potential trading abuses. The Commission has provided the exchanges with a list of issues that warrant consideration. These exchange assessments and follow-up actions should further bolster public confidence in the futures markets.

## AGRICULTURAL MARKETS

Question: During 1988, agricultural commodities comprised about 25 percent of the futures contracts on the eleven exchanges in the U.S. I understand that commodities other than agriculture are a growing portion of the contracts that are traded in the futures markets. What was agriculture's share of the futures markets 10 years ago?

Answer: In fiscal year 1978, the volume of trading in agricultural futures was 33.7 million contracts, which accounted for 63 percent of total industry volume. In fiscal year 1988 the volume of trading in agricultural futures and options was 65.8 million contracts which accounted for 23% of total industry volume.

Question: Do agricultural futures suffer from potential trading abuses in the same proportion as other commodities?

Answer: Similar types of trading abuses may occur in any futures market. Although, as you point out, the market share of agricultural futures has diminished over the past years, the exchanges and the Commission generally do not distinguish between market segments in the design and operation of their compliance and oversight programs. The Commission does expect exchanges to devote their resources according to the size and volatility of the markets they oversee. These programs also take into account a specific market's characteristics, such as the type and distribution of various participants and the size and number of transactions. Nonetheless, as all futures markets generally use the same trading system, the same opportunities for abuse generally are present regardless of the underlying commodity.

Question: Are all trading practices, such as dual trading, used as often with agricultural commodities as they are with other commodities?

Answer: Similar trading practices may be used in any commodity. Both agricultural and financial markets permit the practice of dual trading. Commission staff currently is developing data regarding the specific amount of dual trading which takes place in each market.

A number of factors can affect trade practice in particular markets. Those factors include the underlying commodity, the size of the market, the market participant, such as commercial and speculative, and the floor participants, such as locals, independent brokers, and firm employee brokers. Since these factors can vary among markets, trade practices may also vary.

Question: Would agriculture be better off if it had a separate commodity market regulated by its own commission?

Answer: No. A primary reason for the creation of the CFTC in 1974 was congressional awareness of the inherent conflict between the role and mission of the Department of Agriculture in providing price and income support for farmers and the regulation of commodity futures trading. Congress felt that the agency which regulates futures trading must have a neutral role on commodity prices and that neutrality could best be achieved by an independent regulatory agency. In this regard, it should also be kept in mind that futures trading serves the distinct economic functions of hedging and price discovery and is best regulated along functional lines, regardless of the nature of the underlying commodity. If agriculture had its own regulator, this would imply that futures and options regulation in other commodities should also not be along functional lines, but instead divided among other agencies. If such fragmentation occurred, the expertise of the Commission would be diluted among other agencies, coordination of futures and options regulation would be cumbersome, and futures and options trading in agricultural commodities would be affected adversely if futures exchanges were subjected to duplicative and contradictory regulated requirements.

## QUESTION SUBMITTED BY SENATOR GRASSLEY

### LIVESTOCK FUTURES MARKETS

Question: Iowa producers are concerned about the influence livestock packers can have on the futures markets. Do you see this as a legitimate concern for our producers?

Answer: The Commission is very sensitive to the concerns of agricultural producers regarding futures markets. We understand that farmers need properly functioning markets, and that producers, particularly livestock producers, are often suspicious with regard to activity on futures markets.

We do not believe, however, that trading by livestock packers has been a problem in livestock futures markets. In fact, in a 1987 Commission survey of all traders in the livestock futures markets, we found that packers held a relatively small share of the outstanding open interest. For example, in live cattle futures, packers held only 7 percent of the short and about 1 percent of the long open interest. In the live hog market, packers held less than 3 percent of both the long and short open interest.

Futures trading by livestock packers seems to involve fairly traditional hedging practices. In a 1984 study, the Commission found that packers held short futures positions to hedge inventories of meat and fixed price forward contracts to purchase live cattle or hogs from feeders. In the latter case, the packer, by using a short futures hedge, is able to allow the feeder to lock-in a price at the time of the feeder's choosing. The study found that packers used long futures positions as procurement hedges and hedges of fixed price sales.

In a separate 1987 study, the General Accounting Office reached the conclusion that there was little or no information indicating that cattle futures had a negative impact on producer prices. Among those factors considered in this study were the activities of packers in the cash and futures market.

Livestock packers have generally not been of surveillance concern to the Commission. That is to say, they have not been involved in problem contract liquidations. In fact the Commission is not aware of any evidence indicating that livestock packers have unduly influenced futures market prices.

Question: Knowing this perception exists, can the CFTC play more of a role in easing these fears?

Answer: The Commission has been doing a number of things aimed at easing these fears. The Commission's Division of Economic Analysis has in place a daily market surveillance program which is designed to detect and prevent market manipulations. Our surveillance staff receive and analyze, on a daily basis, position data of all reportable traders in all futures and option markets. Our economists, using these data, along with information on the fundamental factors of supply and demand obtained from many different sources, monitor the futures markets to ensure that futures market prices properly reflect the factors of supply and demand. The staff also routinely shares surveillance information on livestock markets with the Packers and Stockyards Administration of U.S.D.A. We believe this program has been quite successful.

Communication between the Commission and the livestock industry also plays a role in easing fears about futures markets. Commissioner Kalo Hineman is chairman of the CFTC's Agricultural Advisory Committee of which the National Cattlemens Association is a member and which consults with agricultural industry representatives to obtain their input on issues regarding agricultural futures. In addition, the Commission's senior economic staff meets with representatives of the National Cattlemens Association from time to time to exchange views and discuss topics of mutual interest. The Commission also has published several special studies on trading in livestock futures markets, and it issues a monthly livestock advisory. This advisory shows the share of the live cattle futures market held by all reportable commercial entities and all reportable speculators as well as the share held by the four largest traders in each group. This report is made available to the media and interested trade groups such that the results become available to industry.

The Commission will continue to work to ensure that trading in livestock markets, as well as all other markets, is conducted in a fair and efficient manner. We also will continue to keep the lines of communication open.

## RESPONSE TO DROUGHT

Question: What did the CFTC do during the drought--as in any specific measures taken--to ensure producers were not taken advantage of in the futures markets during the drought?

Answer: Since the drought was expected to have the greatest effect on supplies of wheat, corn, oats and soybeans, market surveillance for those commodities was intensified. This included interviews with futures and cash market participants, close monitoring of price movements, and special monitoring of positions of the largest traders, both commercial and non-commercial. Between June 1 and October 31, 1988, the Commission reviewed surveillance reports covering expiring futures or option contracts in drought-affected markets on 32 occasions. In addition, the surveillance staff presented summaries of price trends in agricultural cash and futures markets to the Commission each week. While prices were volatile due to the great uncertainties regarding the true impact of the drought on the 1988 crops, no significant surveillance problems arose during that period.

While the Commission undertook these intensified market surveillance activities, I participated on the President's Interagency Drought Policy Committee chaired by Secretary Lyng of the Department of Agriculture.

# FARM CREDIT SYSTEM ASSISTANCE BOARD

## STATEMENT OF ERIC P. THOR, PRESIDENT AND CHIEF EXECUTIVE OFFICER

## ACCOMPANIED BY KENNETH L. PEOPLES, GENERAL COUNSEL

### INTRODUCTION OF WITNESSES

Senator **BURDICK**. Our next panel consists of Dr. Marvin Duncan, Acting Chairman and Chief Executive Officer of the Farm Credit Administration and Mr. Eric P. Thor, President and Chief Executive Officer of the Farm Credit Systems Assistance Board.

Welcome to the committee, gentlemen. Both of these agencies have limitations on the administrative expenses imposed by Congress. The Farm Credit Administration has requested an increase in its budget from $35,000,000 to $37,241,000. The Farm Credit Assistance Board has requested an increase in its budget from $2,000,000 to $2,309,000. So I think we will hear from you first, Mr. Thor.

### STATEMENT OF ERIC THOR

Mr. **THOR**. Thank you very much, Senator.

Mr. Chairman and members of the committee, thank you for the opportunity to appear before you this morning. I am pleased to report in the last 15 months the Farm Credit System Assistance Board has made significant progress in assisting the Farm Credit System to move toward financial viability and has done so at less cost to the system institutions, the Treasury, and the American taxpayer than was originally anticipated.

In 1988, the Farm Credit System reported a combined net income of $704,00,000, compared to a net loss of $17,000,000 in 1987. Approximately $680,000,000 of this was directly due to reversals of the allowance for loan losses for various System institutions.

It is worth noting that the System recorded its first positive earnings since 1984. Over the last year, in districts with institutions certified by the Assistance Board, services generally improved to almost 225,000 farmers and ranchers in 15 States, which represent over one-third of U.S. agricultural production by volume.

System institutions in these States hold approximately $16 billion in assets and $15 billion in debts and other liabilities. The assisted institutions should save the System and indirectly its farmer and rancher shareholders as much as $500 to $600 million over the next several years while using only 10 percent of the authorized financial assistance.

Of course, the ultimate savings will depend upon the overall level of market interest rates and ability of bank boards and management to fully implement their recovery plans. The interest expense on the System's $55 billion in debt is the Farm Credit System's largest expense. Therefore, it is significant that the trading position of the System obligations has improved vis-a-vis other Government securities.

The spreads between Systemwide debt and similar U.S. Treasury obligations have narrowed, on average, approximately 30 basis points. Investor confidence in System institutions has been restored, resulted in savings to all System institutions as much as $120 to $175 million in borrowing costs per year.

The improvement in System earnings in 1988 is partially due to the focus by the institutions on the back-to-basics of financial management. That is, adherence to the following basic principles:

Loan restructuring. The successful banker makes a high percentage of sound loans and moves quickly to identify and address problem loans. The successful banker avoids the growing number of nonaccruing loans that have been burdening the portfolios of weaker financial institutions in recent years.

Asset and liability management. Financially weak institutions must focus on reducing their borrowing costs and controlling their interest rate risks. The recent use of funding and refunding alternatives by certain System institutions have begun to achieve these results.

Marginal loan pricing. With interest rates continuously changing, the financial institution must take adequate steps to cover the cost of money and operations.

Effective cost controls. Every business today to succeed must focus on and control costs. The era which could tolerate high expenses and lack of controls in financial institutions is over. Many financial institutions must survive on a 50- to 75-basis-point margin. Customers today switch institutions for the benefit of 100 basis points or less.

The Farm Credit System lost over $25 billion in assets from 1984 to 1985 in large measure because many good farmers—over 100,000 borrowers—found they could borrow more cheaply elsewhere. Price is important.

## ASSISTANCE BOARD POLICY

The Assistance Board was chartered on January 21, 1988, with the limited—and I want to stress limited—purpose of providing financial assistance to System institutions which meet the eligibility requirement under the Agricultural Credit Act of 1987.

The Assistance Board accomplishes this purpose by working with eligible applicants to determine their financial condition, assessing the probability of recovery if given assistance, designing assistance packages tailored to the needs of the eligible institution, and monitoring assisted institutions as they implement agreed-upon recovery plans.

While the Assistance Board does not work directly with individual borrowers, an important concern has been and will remain the needs of the farmers and ranchers served by the Farm Credit System and the certified institutions, who depend upon institutions as a reliable source of agricultural credit. Assistance Board action should permit institutions to ensure the availability of agricultural credit at reasonable and competitive rates to System borrowers.

## ASSISTANCE BOARD ORGANIZATION

The three-member board of directors consists of the Secretary of Agriculture, the Secretary of the Treasury and a producing farmer nominated by the President and confirmed by the Senate. The Assistance Board staff is small and will remain so. From the beginning, we were determined to avoid creating a large bureaucracy. The team of 20 professional and support staff have performed well in a high-pressure environment and the Assistance Board has had fine support and assistance from the Departments of Agriculture and Treasury.

## ASSISTANCE BOARD ACTIONS

One of the first official Assistance Board actions taken 15 days after chartering was to return more than $113 million in equity to stockholders of the former Farm Credit System Capital Corporation. An additional $10.4 billion was distributed in July following dismissal of certain litigation against the Capital Corporation.

Of the 48 lawsuits filed against the Capital Corporation, to which the Assistance Board became a statutory successor, 14 cases remain today. We are continuing to pursue various options in an effort to resolve these proceedings. In March 1988 the Assistance Board authorized the Farm Credit System Financial Assistance Corporation to fund retirement of frozen stock in six System production credit associations which were in liquidation.

Farmer and rancher stockholders in these Omaha and Spokane District PCA's received approximately $16 million in stock refunds and credits. The Assistance Board acted on four applications for assistance by System institutions in 1988. The Board is authorized to act only on application, from institutions with impaired capital stock. That is, book value of the stock must be less than par value. If the stock value is less than 75 percent of par, the institution is required to seek assistance.

Every request for assistance is unique, because each set of financial problems is unique. There are, however, similarities and certain basic requirements with which each institution must comply. Each institution must provide a rational and realistic business and recovery plan and must demonstrate it has board and management expertise to implement that plan successfully.

The Federal Land Bank in Louisville was certified as eligible to receive up to $90 million in financial assistance. While Louisville had made progress in 1987 toward recovery, it was hampered by a portfolio of debt which carried very high interest rates—the highest in the System at that time. Louisville used the assistance to reduce its average cost of debt, and as a result, is expected to save over $140 million in interest costs over the next several years.

The Louisville Bank, like all certified institutions, is entitled to participate in the Farmer's Home Administration demonstration project. This program was created by the Agricultural Credit Act of 1987 and it is designed to provide guaranteed, low interest rate loans to eligible FmHA borrowers who wish to buy acquired properties of certified Farm Credit System institutions. Louisville announced on March 15, 1989, that it was ready to participate in the program.

Another action taken by the Assistance Board in 1988 was to recommend to the Farm Credit Administration Board that the Federal Land Bank of Jackson be placed in receivership. This recommendation was made only after exhaustive exploration of possible alternatives to deal with this critical situation.

The Jackson Bank was losing approximately $6 million per month at that point. Its loan volume had dropped in half and it had debts of $1.6 billion outstanding with over $600 million of it due in 1988. Its capital position was so weak that it had not been able to make new loans or retire borrower stock to farmers and ranchers since December 1987.

The situation has greatly improved for borrowers in Alabama, Louisiana, and Mississippi. The Farm Credit Bank of Texas recently bought a large part of the Jackson loan portfolio and the Texas charter has been expanded to include this three-State area.

Interest rates for borrowers were reduced to reflect the cost of funds in the Texas district. Long-term Farm Credit System services are again available to borrowers in these States. Our latest information is that Texas is now processing in excess of 100 loan applications from borrowers in the old Jackson district. These borrowers, as well as all Jackson borrowers whose loans were purchased by the Texas district, are saving up to 100 basis points on their reduced loan costs.

The Farm Credit Bank of Omaha applied for assistance in June and was certified by the Assistance Board for up to $110 million. The Omaha Bank suffered from a number of factors, including high operating expenses and a shrinking loan portfolio.

Its new management team had begun to attack these problems but the bank needed further financial help to make its recovery plan work. Because of the financial assistance it has received, the Omaha Bank has implemented its business and operating recovery plan and could save up to $250 million in operating and interest expenses over the next few years.

The Assistance Board certified the Farm Credit Bank of St. Paul for up to $133 million in October 1988. The bank also received $179 million from the first FAC bond issue to cash out assistance previously given under the system's capital preservation agreements. St. Paul Bank is the largest bank in the System, with approximately $7 billion in total assets and it has some equally large financial problems.

St. Paul is moving toward solving these problems. The Assistance Board worked with the bank for several months, developing an acceptable business and recovery plan. St. Paul's problems have not disappeared, but we believe the bank is on the road to recovery. With leadership from its board, CEO, and associations this can be accomplished.

In October, the Assistance Board gave preliminary conditional approval to requests by three New Mexico Production Credit Associations to change their affiliations from the Wichita Farm Credit District to the Texas Farm Credit District. The Farm Credit Bank of Texas has previously agreed to accept these reassignments. PCA shareholders and the Farm Credit Administration must also approve the move.

Many other associations filed reassignment petitions with the Farm Credit Administration just before the statutory January 6, 1989, deadline to move their affiliations. These petitions are under review by the various entities as required by the Agricultural Credit Act of 1987.

### OTHER ASSISTANCE BOARD RESPONSIBILITIES

Other activities involving the Assistance Board which may be of interest to the committee include the National Special Asset Council and the Special Committee on District Consolidation.

The National Special Asset Council monitors the compliance by the System lenders certified by the Assistance Board, with loan restructuring requirements set forth in the Agricultural Credit Act of 1987. The monitoring is done by a review of a sample of loan structuring denials by each district asset group and by FCA's findings regarding loan restructuring implementations. Each of the institutions approved for financial assistance has established a special asset group.

The 1987 act established the Special Committee on District Consolidation to develop a proposal to consolidate the System into no less than six districts.

The committee, consisting of one representative from each of the Farm Credit System Bank Boards and representatives from the Assistance Board, is presently preparing its report to Congress. The Assistance Board believes that efficiencies can be gained in part through merger and consolidation within the Farm Credit System. Opportunities for cost savings to the System institutions may be achieved through merger and consolidation and should not be ignored.

### ASSISTANCE BOARD'S PROPOSED BUDGET FOR 1989

The Assistance Board's operating expenses are included in the Financial Assistance Corporation expenditures listed in the table attached to this testimony. In 1989, as directed by this committee, we have limited our operating budget to $2 million. We are proposing a modest operating budget for 1990 of $2.3 million, which will allow for an increase in our assistance monitoring activity, adjustments for inflation, and salary increases.

As you know, Mr. Chairman, the Assistance Board was given 5 years to accomplish its statutory purpose. We are now in the second year. After an initial year of intense effort focused on working with applications from institutions in severe financial distress, we are moving into the second phase of the process: Monitoring the assisted institutions and the financial condition of capital impaired System institutions.

The Assistance Board will examine and evaluate any financial assistance applications that System institutions may submit in the future. Providing the right assistance package for each institution is only the first step. Providing followup oversight and guidance is also very important.

In addition to the review of financial documents and visits to assisted institutions, the Assistance Board meets regularly with farmers and ranchers in each area for listening sessions. These off-the-record meetings provide invaluable insight into the quality of service the certified institutions are providing, including possible problems with restructuring, available credit, and interest rates.

With the cooperation of many sources including congressional offices in each State served by assisted System institutions, we started these meetings with farmers in an effort to do a better job through improved communication. They have proved popular and useful and we intend to continue to do them on a regular basis.

The amount of progress made by the System institutions in 1989 and beyond depends upon the ability of individual boards and the management team in each System institution to meet the financial challenges that lie ahead.

The Farm Credit System is in a fragile period, with recovery depending upon many factors not all within the System institutions' control. Many factors will in the long run affect the condition of U.S. agriculture and rural America and subsequently the System's recovery.

The Assistance Board will watch the progress carefully, looking specifically at the certified System institutions as they implement their business and recovery plans in this uncertain financial environment.

Thank you, Mr. Chairman. I will be pleased to respond to any of your questions.

### PREPARED STATEMENT

Senator BURDICK. Thank you. Your complete statement will be made part of the record.

[The statement follows:]

### STATEMENT OF ERIC P. THOR

Mr. Chairman and members of the Committee, thank you for the opportunity to appear before you this morning.

I am pleased to report that in the past 15 months, the Farm Credit System Assistance Board has made significant progress in assisting the Farm Credit System to move toward financial viability, and has done so at less cost to the System institutions, the Treasury and the American taxpayer than was originally anticipated. In 1988, the Farm Credit System reported a combined net income of $704 million, compared to a net loss of $17 million in 1987. Approximately $680 million of this amount resulted from reversals from the allowance for loan losses for various System institutions. It is worth noting that the System recorded its first positive earnings since 1984.

Over the last year, in districts with institutions certified by the Assistance Board, service has generally improved to almost 225,000 farmers and ranchers in fifteen states, which represent over one-third of U.S. agricultural production by volume. System institutions in these states hold approximately $16 billion in assets and $15 billion in debts and other liabilities. The assisted institutions should save the System and indirectly its farmer and rancher stockholders as much as $500—$600 million over the next several years while using only 10 percent of the authorized financial assistance. Of course, the ultimate savings will depend on the overall level of market interest rates and the ability of bank boards and management to fully implement their recovery plans.

The interest expense on the System's $55 billion debt is the Farm Credit System's largest expense. Therefore, it is significant that the trading position of Systemwide obligations has improved vis-a-vis other government securities. The spreads between Systemwide debt and similar U.S. Treasury obligations have narrowed on the average approximately 30 basis points. Investor confidence in System institutions has been restored, resulting in savings to all System institutions of as much as $120 million to $175 million in borrowing costs per year.

The improvement in System earnings in 1988 is partially due to the focus by the institutions on the "back to basics" of financial management. That is adherence to the following principles:

*Loan Restructuring.* The successful banker makes a high percentage of sound loans and moves quickly to identify and address problem loans. The successful banker avoids the growing number of non-accruing loans that have burdened the portfolios of weaker institutions in recent years.

*Asset and Liability Management.* Financially weak institutions must focus on reducing their borrowing costs and controlling their interest rate risk. The recent use of funding and refinancing alternatives by certain System institutions have begun to achieve this result.

*Marginal Loan Pricing.* With interest rates continuously changing, a financial institution must take adequate steps to cover the cost of money and operations.

*Effective Cost Controls.* Every business to succeed must focus on and control costs. The era which could tolerate high expenses and lack of cost controls in deregulated financial institutions is over. Many financial institutions must survive on a 50 to 75 basis point margin. Customers today switch institutions for a benefit of 100 basis points or less. The Farm Credit System lost over $25 billion in assets from 1984 to 1988 in large measure because many good farmers—over 100,000 borrowers—found they could borrow more cheaply elsewhere. Price is important.

## ASSISTANCE BOARD POLICY

The Assistance Board was chartered on January 21, 1988, with the limited purpose of providing financial assistance to System institutions which meet the eligibility requirements under the Agricultural Credit Act of 1987. The Assistance Board accomplishes this purpose by working with eligible applicants to determine their financial condition, assess the probability of recovery if given assistance, design assistance packages tailored to the needs of the eligible institution, and monitor assisted institutions as they implement agreed upon recovery plans.

While the Assistance Board does not work directly with individual borrowers, an important concern has been and will remain the needs of farmers and ranchers served by the Farm Credit System, who depend on System institutions as reliable sources of agricultural credit. Assistance Board actions should permit institutions to ensure the availability of agricultural credit at reasonable and competitive rates to System borrowers.

## ASSISTANCE BOARD ORGANIZATION

The three-member Board of Directors consists of the Secretary of Agriculture, the Secretary of the Treasury and a producing farmer nominated by the President and confirmed by the Senate. The Assistance Board staff is small and will remain so. From the beginning, we were determined to avoid creating a large bureaucracy. The team of 20 professional and support staff has performed well in a high-pressure environment, and the Assistance Board has had fine support and assistance of the Departments of Agriculture and Treasury.

## ASSISTANCE BOARD ACTIONS

One of the first official Assistance Board actions, taken 15 days after chartering, was to return more than $113 million in equity to stockholders of the former Farm Credit System Capital Corporation. An additional $10.4 million was distributed in July following dismissal of certain litigation against the Capital Corporation.

Of the 48 lawsuits filed against the Capital Corporation to which the Assistance Board became the statutory successor, 14 cases remain. We are continuing to pursue various options in an effort to resolve these proceedings.

In March 1988, the Assistance Board authorized the Farm Credit System Financial Assistance Corporation to fund retirement of frozen stock in six System Production Credit Associations which were in liquidation. Farmer and rancher stockholders in these Omaha and Spokane District PCAs received $16 million in stock refunds and credits.

The Assistance Board acted on four applications for financial assistance by System institutions in 1988. The Board is authorized to act only on applications from institutions with impaired capital stock—that is, the book value of the stock must be less than par value. If the stock value is less than 75 percent of par, the institution is required to apply for assistance.

Every request for assistance is unique because each set of financial problems is unique. There are, however, similarities, and certain basic requirements with which each institution must comply. Each institution must provide a rational, realistic business and recovery plan and must demonstrate that it has board and management expertise to implement the plan successfully.

The Federal Land Bank of Louisville was certified as eligible to receive up to $90 million in financial assistance. While Louisville had made progress in 1987 toward recovery, it was hampered by a portfolio of debt which carried very high interest rates—the highest in the System at that time. Louisville used the assistance to reduce its average cost of debt and as a result is expected to save approximately $140 million in interest costs over the next several years.

The Louisville Bank, like all certified System institutions, is entitled to participate in the Farmers Home Administration (FmHA) demonstration project. This program was created by the Agricultural Credit Act of 1987 and is designed to provide guaranteed low-interest rate loans to eligible FmHA borrowers who wish to buy acquired properties of certified Farm Credit System institutions. Louisville announced on March 15, 1989, that it is ready to participate in the program.

Another action taken by the Assistance Board in 1988 was to recommend to the Farm Credit Administration Board that the Federal Land Bank of Jackson be placed in receivership. This recommendation was made only after exhaustive exploration of possible alternatives to deal with this critical situation. The Jackson Bank was losing approximately $6 million per month at that point; its loan volume had dropped by half, and it had debt of $1.6 billion outstanding, with $600 million of it due in 1988. Its capital position was so weak that it had not been able to make new loans or retire borrower stock since December 1987.

The situation has greatly improved for borrowers in Alabama, Louisiana and Mississippi. The Farm Credit Bank of Texas recently bought a large part of the Jackson loan portfolio, and the Texas charter has been expanded to include this three-state area. Interest rates for borrowers were reduced to reflect the cost of funds in the Texas District. Long-term Farm Credit System services are again available to borrowers in these states. Our latest information is that Texas is now processing about 100 loan applications from borrowers in the old Jackson district. These borrowers, as well as all Jackson borrowers whose loans were purchased by the Texas District, are saving up to 100 basis points.

The Farm Credit Bank of Omaha applied for assistance in June and was certified by the Assistance Board for up to $110 million. The Omaha Bank suffered from a number of factors including high operating expenses and a shrinking loan portfolio. Its new management team had begun to attack these problems, but the bank needed financial help to make its recovery plan work. Because of the financial assistance it has received, Omaha has implemented its business recovery plan and could save up to $250 million in operating and interest expenses in the next few years.

The Assistance Board certified the Farm Credit Bank of St. Paul for up to $133 million in October 1988. The bank also received $179 million from the first FAC bond issue to cash out assistance previously given under the System's Capital Preservation Agreements. The St. Paul Bank is the largest bank in the System with approximately $7 billion in total assets; and it has some equally large financial problems. St. Paul is moving toward solving these problems. The Assistance Board worked with the bank for several months, developing an acceptable business and recovery plan. St. Paul's problems have not disappeared, but we believe the bank is on the road to recovery. With leadership from its board, CEO and associations, this can be accomplished.

In October, the Assistance Board gave preliminary, conditional approval to requests by three New Mexico Production Credit Associations to change their affiliations from the Wichita Farm Credit District to the Texas Farm Credit District. The Farm Credit Bank of Texas had previously agreed to accept these reassignments. PCA shareholders and the Farm Credit Administration must also approve the move. Many other associations filed reassignment petitions with the Farm Credit Administration just before the statutory January 6, 1989 deadline to move their affiliations. These petitions are under review by the various entities as required by the Agricultural Credit Act of 1987.

## OTHER ASSISTANCE BOARD RESPONSIBILITIES

Other activities involving the Assistance Board which may be of interest to the Committee include the National Special Asset Council and the Special Committee on District Consolidation.

The National Special Asset Council monitors compliance, by System lenders certified by the Assistance Board, with loan restructuring requirements set forth in the Agricultural Credit Act of 1987. The monitoring is done through review of a sample of loan restructuring denials by each district special asset group, and of FCA findings regarding loan restructuring implementations. Each of the institutions approved for financial assistance has established a special asset group.

The 1987 Act established the Special Committee on District Consolidation to develop a proposal to consolidate the System into no less than six districts. The Committee, consisting of one representative from each Farm Credit Bank board, and representatives of the Assistance Board, is presently preparing its report to Congress. The Assistance Board believes that efficiencies in part can be gained through merger and consolidation within the Farm Credit System. Opportunities for cost savings to the System institutions that may be achieved through merger and consolidation should not be ignored.

## ASSISTANCE BOARD'S PROPOSED BUDGET FOR 1989

The Assistance Board's operating expenses are included in the Financial Assistance Corporation's expenditures, listed in the table attached to this testimony. In 1989, as directed by the Appropriations Committee, we have limited our operating budget to $2 million. We are proposing an operating budget for 1990 of $2.3 million, which will allow for an increase in our assistance monitoring activity, adjustments for inflation and salary increases.

## CONCLUSION

As you know, Mr. Chairman, the Assistance Board was given five years to accomplish its statutory purpose. We are now in the second year. After an initial year of intense effort focused on working with applications from institutions in severe financial distress, we are now moving into the second phase of the process: monitoring the assisted System institutions and the financial condition of capital-impaired System institutions. The Assistance Board will examine and evaluate any financial assistance applications that System institutions may submit in the future. Providing the right assistance package for each institution is only the first step. Providing followup oversight and guidance is also very important.

In addition to review of financial documents and visits to the assisted institutions, the Assistance Board meets regularly with farmers and ranchers in each area for "listening sessions". These off the record meetings provide valuable insight into the quality of service the certified institutions are providing, including possible problems with restructuring, available credit, and interest rates. With the cooperation of many sources including congressional offices in each state served by assisted System institutions, we started these meetings with farmers in an effort to do a better job through improved communication. They have proved popular and useful, and we intend to continue them on a regular basis.

The amount of progress made by System institutions in 1989 and beyond depends upon the ability of the individual board and management team in each System institution to meet the financial challenges that lie ahead. The Farm Credit System is in a fragile period, with recovery depending on many factors, not all within System institutions' control. Many factors will, in the long run, affect the condition of U.S. agriculture and rural America, and consequently, the System's recovery. The Assistance Board will carefully watch the progress made by certified System institutions as they implement their business and recovery plans in this uncertain financial environment.

Thank you, Mr. Chairman. I will be pleased to respond to your questions.

## Table of Financial Assistance Corporation Expenditures

December 31, 1988

| Use Of Proceeds | Amount* | Payment of Interest | Repayment of Principal |
|---|---|---|---|
| Third Quarter 1986 Capital Preservation cash outs for Louisville, St. Paul, Omaha, and Jackson. | $258,442,088 | System Banks [1] | System Banks [2] |
| Provide Financial Assistance | 370,554,670 | Treasury and System | Assisted Institution |
| Assistance Board Expenses | 2,000,000 | Treasury and System | System Institutions [3] |
| Retirement of Frozen Borrower Stock | 21,026,795 | Treasury and System | System Institutions [3] |
| Interest on Promissory Notes Payable | 563,498 | Treasury and System | System Institutions [3] |
| Discount on First Bond Sale | 2,250,000 | Treasury and System | System Institutions [3] |
| Prefunding | 35,162,949 | Treasury and System | Depends Upon Ultimate Use of Funds |
| Total | $690,000,000 | | |

*Amounts have been rounded off to the nearest dollar.

[1] Based on average accruing loan volume during the year preceding the year of payment.

[2] Based on average accruing loan volume for the preceding 15 years.

[3] Based on average performing loan volume of the institution for the preceding 15 years.

Source: Farm Credit System Financial Assistance Corporation.

# FARM CREDIT ADMINISTRATION

## STATEMENT OF MARVIN R. DUNCAN, PRESIDENT AND CHIEF EXECUTIVE OFFICER

ACCOMPANIED BY:

ANNE E. DEWEY, GENERAL COUNSEL

MICHAEL BRONSON, DIRECTOR, OFFICE OF ADMINISTRATION

### BUDGET REQUEST

Senator BURDICK. Mr. Duncan.

Mr. DUNCAN. Good morning, Mr. Chairman and members of the subcommittee. I am Marvin Duncan, Acting Chairman and Chief Executive Officer of the Farm Credit Administration. With your permission I will summarize my presentation this morning and ask that the full text of my testimony be incorporated into the record.

Senator BURDICK. Very good.

Mr. DUNCAN. The management of the Farm Credit Administration is of course vested in a board whose three members are appointed by the President and confirmed by the U.S. Senate. At the moment there are two vacancies on that board, and I have been delegated certain authorities to ensure that the Agency continues to carry out its mission.

I am pleased to be before you today to present the budget of the Farm Credit Administration for fiscal year 1990. As I will point out, it represents only a modest increase in the operating expenses of the Agency in order to allow us to fulfill our statutory responsibilities in the midst of substantial change in both those responsibilities and in the institutions we regulate and examine.

Beginning in fiscal year 1986 and in recognition of the Agency's newly mandated responsibilities, the FCA's new management team began an extensive cost avoidance and expense reduction program. Each component of the proposed budget was analyzed for potential savings and virtually all experienced some reduction over that time period.

In short, where we could cut costs and make savings without reducing effectiveness, those actions were taken. I am confident that as a result of these efforts the Farm Credit Administration today is a lean, efficient, effective, and professional Federal regulator of financial institutions.

Legislation passed by the Congress in 1985, 1986, and 1987 mandated dramatic changes in the way the Agency was to operate. With the exception of the Federal Land Bank Associations, each Farm Credit institution has to be examined at least annually.

To accomplish this more efficiently, we have opened 11 strategically located field offices out of which our examiners work. Locating staff in field offices has enabled us to better control the travel costs of our examiners and has enabled them to be more productive.

Many changes have been mandated and made permissible in terms of the organizational structure of the Farm Credit institutions as a result of the 3 years of legislative initiatives.

Any of those eventualities will result in an increase, at least for the next few years, in the workload of Farm Credit Administration examiners and other staff. In addition, FCA's workload will increase with the operation of the Federal Agricultural Mortgage Corporation and the Farm Credit System Insurance Corporation, both mandated by the statute.

## AUTOMATED INFORMATION SYSTEM

To more effectively and efficiently evaluate the financial condition of the institutions under our jurisdiction, we have developed automated information systems to collect, process, and analyze the institutions' financial data. This automated system is now operating and, together with an FCA-designed field communications network, is available to our examiners around the country. The implementation of the field communications network by FCA staff, rather than by contractors, resulted in savings of $480,000.

Meanwhile, to meet the pressing needs of our examiners and other personnel in McLean and field offices, our mainframe computer must be upgraded. Approximately $720,000 is budgeted for enhancement of this computer and for the replacement of obsolete work stations, many of which are currently operating with components that we have cannibalized from other machines within the Agency.

## FCA COMMISSIONED EXAMINER PROGRAM

Though hardware and software are necessary components in an automated examination and enforcement process, effectively trained people remain the backbone of the program. Area pay differentials, more realistic travel reimbursement, and better fringe benefits offered by other Federal financial regulators have made it very difficult for us to recruit from these sources, and because of noncompetitive salary levels at the FCA, we have been unable to recruit fully trained examiners from the other Federal financial regulators.

Consequently, the Agency has been forced to hire inexperienced recent college graduates to meet our examination requirements. Therefore, we have developed and implemented a comprehensive examiner training program which takes 3 or more years to complete.

Upon completion, these employees become commissioned examiners and are graded and paid accordingly. Indeed, our examiners' opportunities for career advancement at the FCA are dependent upon the successful completion of the examiner commissioning program. This ongoing examiner training costs about $500,000 a year. It is essential to the mission of the Agency and we expect it will be necessary to continue well into the future on an ongoing basis.

The fiscal 1990 budget also recognizes the increased complexity of legal and regulatory enforcement work facing the Agency. The

Agency continues to carry out its regulatory enforcement responsibilities established by the 1985 amendments. During calendar year 1988, the FCA executed 45 enforcement documents which covered approximately half of the Farm Credit institutions' $50 billion in total loans and loan-related assets. Another 25 such actions are currently pending within the Agency.

### LITIGATION AND REGULATIONS

The Agricultural Credit Act of 1987 mandates statutory revisions that require increased review and analysis of the Farm Credit institutions by the Agency and substantial changes in regulations of the Agency. Many of these regulations implement new authorities for the Agency or address new issues, some of which could possibly be subject to legal challenge. Approximately 30 lawsuits are currently pending in which the Agency is involved.

As required by law, we continue to coordinate with the Farm Credit System Assistance Board, particularly with regard to receiverships, the process of merger and other structural changes mandated or made possible by the act. This all requires extensive legal and financial analysis. Indeed, we expect an increasing amount of staff time and resources to be devoted to the institutions that are receiving assistance from the Farm Credit System Assistance Board.

### GOVERNMENT BENEFIT COSTS INCREASE

Since fiscal year 1985, Federal salaries have increased 12.6 percent, the cost of benefits has risen by 25 percent with the new Federal Employees Retirement System, and per diem rates for travel have risen 10 percent. Inflation affecting all other goods and services has been 18.5 percent. We have tried to control many of these elements through the aggressive cost containment program mentioned previously.

The fiscal year 1990 budget of $37.2 million represents a modest increase of $2.3 million over the $34.9 million budgeted the previous year. Of that increase, 70 percent—$1.6 million—is due to recent Governmentwide increases in pay, benefits, and travel which we had previously been able to absorb in the other categories of our expenditures, but are no longer able to do so.

### NEEDS FOR BUDGETARY FLEXIBILITY

In presenting this budget, we want to recognize that part of our work is of necessity reactive. Situations occur that require the expenditure of human and financial resources which cannot accurately be forecast or projected. For example, if the assets of the Farm Credit Banks are distributed to Federal Land Bank Associations or Agricultural Credit Associations as direct lenders, significant resources would be required by the Agency that are not currently included in this budget.

The same will be true if more Federal Land Bank Associations become direct lenders, more ACA's are formed, or there are a number of reversals of previous mergers between Farm Credit institutions. Another example, the Treasury Department has recently advised that it will discontinue providing automated payroll and personnel processing services to the Farm Credit Administration. This will require us to convert to some other system within the next 1 to 2 years at a substantial, though as yet undefined, cost.

For these reasons, although every effort will be made to contain costs, it is essential that the FCA maintain some budgetary flexibility if it is to continue to fulfill its statutorily mandated mission in fiscal 1990.

Mr. Chairman, I will be happy to respond to any questions regarding the FCA's budget for fiscal 1990.

## PREPARED STATEMENT

Senator **Burdick**. Thank you very much. Your complete statement will be made part of the record.

[The statement follows:]

### Statement of Marvin R. Duncan

Mr. Chairman and members of the Subcommttee, I am Marvin Duncan, Acting Chairman and Chief Executive Officer of the Farm Credit Administration (FCA). The FCA is the independent agency in the Executive Branch responsible for the regulation and examination of the banks, associations, affiliated service organizations, and other entities that collectively comprise what is known as the Farm Credit System. The management of the agency is vested in a board whose three members are appointed by the President subject to confirmation by the U.S. Senate. At the moment, there are two vacancies on that board, and I have been delegated certain authorities to ensure the agency continues to carry out its mission. I am pleased to be before you today to present the budget of the Farm Credit Administration for the fiscal year 1990. As we will point out, it represents only a modest increase in the operating expenses of the agency to allow us to fulfill our statutory responsibilities in the midst of substantial change in both those responsibilities and in the institutions we regulate and examine.

The Farm Credit Administration's budgetary process is set forth in the Farm Credit Act of 1971, as amended. Section 5.15 of the Act requires that prior to the first day of each fiscal year, the Farm Credit Administration shall determine: the cost of administering the Act for the subsequent fiscal year, including expenses for official functions; the amount of assessments that will be required to pay such administrative expenses, taking into consideration the funds contained in the Administrative Expense Account, and maintain a necessary reserve; and the amount of assessments that will be required to pay the costs of supervising and examining the Federal Agricultural Mortgage Corporation.

On the basis of the determinations made, the Farm Credit Administration shall: apportion the amount of the assessments among System institutions on a basis that is determined to be equitable by the Farm Credit Administration; assess and collect such apportioned amounts from time to time during the fiscal year; and assess and collect from the Federal Agricultural Mortgage Corporation from time to time during the fiscal year the amount determined necessary.

The amounts collected are deposited in the Farm Credit Administration's Administrative Expense Account and are maintained in the Treasury of the United States.

Beginning in fiscal year 1986, and in recognition of the agency's newly mandated responsibilities, the Farm Credit Administration's new management team began an extensive cost avoidance and expense reduction program. Each component of the proposed budgets was analyzed for potential savings and virtually all experienced some reduction. The use of contractors and consultants was significantly reduced or cut entirely. Management was streamlined. The quality and quantity of consumable supplies was tightly controlled. Equipment parts were taken from other machines to reduce new acquisitions. Also new or improved operating procedures were implemented, which allowed the FCA to deal with its increased workload with minimal increases in financial resources. In short, where we could cut costs and make savings without reducing effectiveness, those actions were taken. I am confident that as a result of these efforts the Farm Credit Administration today is a lean, efficient, effective, and professional Federal regulator of financial institutions.

Legislation passed by the Congress in 1985, 1986, and 1987, as I indicated earlier, mandated dramatic changes in the way the agency was to operate. With the exception of the Federal Land Bank Associations (FLBs), each institution now has to be examined at least annually. To accomplish this more efficiently, we opened 11 strategically located field offices out of which our examiners work. Locating staff in field offices has enabled us to better control the travel costs of our examiners and has enabled them to be more productive.

The Farm Credit Act of 1971 as amended by the Agricultural Credit Act of 1987 makes it possible for Federal Land Bank Associations and Production Credit Associations (PCAs) to merge to form Agricultural Credit Associations (ACAs), with the resulting association being able to make direct short-, intermediate-, and long-term loans. The Act also now provides for Federal Land Bank Associations to become direct lenders and for FLBAs and PCAs that had previously merged to reconsider those mergers. Any of these eventualities will result in an increase—at least for the next few years—in the workload of FCA examiners and other staff. In addition, FCA's workload will increase with the operation of the Federal Agricultural Mortgage Corporation and the Farm Credit System Insurance Corporation, both mandated by statute.

To more effectively and efficiently evaluate the financial condition of the institutions under our jurisdiction, we developed automated information systems to collect, process, and analyze the institutions' financial data. This automated system is now operating and, together with an FCA-designed field communications network, is available to our examiners around the country. The implementation of the field communications network by FCA staff, rather than by contractors, resulted in a savings of $480,000.

Meanwhile, to meet the pressing needs of our examiners and other personnel in McLean and the 11 field offices, our mainframe computer must be upgraded. Approximately $720,000 is budgeted for enhancement of this computer and for the replacement of obsolete work stations, many of which are operating with components taken from other machines. With these upgrades we will have efficient and effective consolidated reporting and communications systems that will enhance FCA's examination and enforcement efforts well into the future. Without them we would in effect have to tell our examiners, "Yes, we have the capability of saving travel expense and doing a more effective job in the collecting, processing, and analyzing of financial data, but that capability is available to each field office only 2 hours a week."

Though hardware and software are necessary components in the automated examination and enforcement process, effectively trained people are the backbone of the program. Area pay differentials, more realistic travel reimbursement, and better fringe benefits offered by other Federal financial regulators have made it very difficult to recruit from those sources. And, because of non-competitive salary levels at the FCA, we have been unable to recruit fully-trained examiners from the marketplace.

Consequently, the agency has been forced to hire inexperienced, recent college graduates to meet our examination requirements. Therefore, we have developed and implemented a comprehensive examiner training program which takes 3 or more years to complete. Upon completion, these employees become "commissioned" examiners and are graded and paid accordingly. Indeed, our examiners' opportunities for career advancement at the FCA are dependent on their successful completion of the examiner commissioning program. This on-going examiner training costs about $500,000 per year and is essential to the mission of the agency.

Because our examiners have the disadvantage of a heavy travel schedule, averaging 70 percent of their time, and because trained examiners have skills attractive to other Federal regulators and the financial services industry, we expect a comparatively high turnover among this segment of FCA employees. Consequently, we believe this training expense will be a continuing one. That we have begun to lose employees to other financial regulators is an affirmation of the quality and effectiveness of our examiner training program.

The fiscal year 1990 budget also recognizes the increased complexity of legal and regulatory enforcement work facing the agency. The agency continues to carry out its regulatory enforcement responsibilities established by the 1985 amendments. During calendar year 1988, the FCA executed 45 enforcement documents, which covered approximately half of the System's $50 billion in total loans and loan-related assets. Another 25 such actions are pending at this time.

The Agriculture Credit Act of 1987 mandates statutory revisions that require increased review and analysis of the Farm Credit Banks and institutions by the agency. During the calendar year 1988, the agency promulgated or revised a substantial number of its regulations to implement the Act. The costs for publication in the *Federal Register* alone will exceed $130,000 this fiscal year, approximately three times the cost in fiscal year 1988. Many of these regulations implement new authorities for the agency or address new issues, some of which could possibly be the subject of legal challenges. Approximately 30 lawsuits are currently pending in which the agency is involved. As required by law, we continue to coordinate with the Farm Credit System Assistance Board and with receiverships on the processing of mergers and other structural changes mandated or made possible by the Act. This all requires extensive legal and financial analysis.

Indeed, we expect an increasing amount of staff time and resources to be devoted to banks and institutions that are receiving assistance from the Farm Credit System Assistance Board.

There are a number of actions taken by the Farm Credit Banks and institutions under the jurisdiction of the FCA that are no longer subject to our prior approval. The agency, therefore, must establish standards of performance in those areas against which our examiners will measure the safety and soundness of an institution's operations. As a result, examinations will be broader in scope as examiners are required to review board and management actions for safety and soundness. Similarly, the borrower rights provisions of the Act will require significant examination effort to ensure that borrowers are protected from abusive tactics in the extension of credit, making collections, loan restructuring, and the right of first refusal. An increase in staff time also will be necessary to monitor and examine for compliance with capital adequacy regulations, as well.

Since fiscal year 1985, Federal salaries have increased 12.6 percent, the cost of benefits has risen by 25 percent with the new Federal Employees' Retirement System, and per diem rates for travel have risen 10 percent. Inflation affecting all other goods and services has been 18.5 percent. We have tried to control many of these elements through the aggressive cost containment program mentioned previously.

The fiscal year 1990 budget of $37.2 million represents a modest increase of $2.3 million over the $34.9 million budgeted the previous year. Seventy percent of that increase—$1.6 million—is due to recent governmentwide increases in pay, benefits, and travel, which we had previously been able to absorb by reducing our "other" category of expenditures. In fiscal year 1989, the "other" category of expenses is only 11.59 percent of the total budget. The fiscal year 1990 budget increases that amount to 15 percent of the total budget. This compares favorably to similar budget categories for other financial regulators, the majority of which are 6 to 7 percent higher.

In presenting this budget, we want to recognize that part of the work of the agency is, of necessity, reactive. Situations occur that require the expenditure of human and financial resources which cannot be accurately forecast or projected. For example, if the assets of the Farm Credit Banks are distributed to Federal Land Bank Associations or Agricultural Credit Associations as direct lenders, significant resources would be required that are not included in this budget. The same will be true if more FLBAs become direct lenders, more ACAs are formed, or there are a number of reversals of previous mergers. Another example, the Treasury department has recently advised that they will discontinue providing automated payroll and personnel processing services to FCA. This will require us to convert to some other system within the next 1 to 2 years at a substantial, though currently undefined, cost. For these reasons, though every effort will be made to contain costs, it is essential that the FCA maintain some budgetary flexibility if it is to continue to fulfill its statutorily mandated mission in fiscal year 1990.

Mr. Chairman, we will be happy to respond to any questions regarding the FCA's budget for fiscal year 1990.

---

*Farm Credit Administration Administrative Expenses*

| | *Amount* |
|---|---|
| Fiscal year 1989 budget | $34,983,000 |

Increases/Decreases by Object Class

| | |
|---|---|
| *Personnel Compensation and Benefits:* | |
| Annualization of the FY 1989 pay increase | 842,000 |
| Career growth in the regulatory and examination staffs | 320,000 |

### Increases/Decreases by Object Class--Continued

The substantial number of entry-level FCA examiners hired in the latter part of FY 1986 and during FY 1987 are continuing to grow toward the full performance level. As the agency assumed the responsibilities directed by the Congress in the amendments to the Farm Credit Act of 1985, the authorized examination staff more than doubled. The majority of this new workforce was hired at the entry level and most examiner replacements now are hired at this level. The relatively large group of examiners hired during FY 1986 and FY 1987 have been extensively trained and have assumed increasingly more responsible assignments since they were appointed.

| | |
|---|---|
| Additions to the legal and regulatory staffs | |
| Increases in staff are required to promulgate regulations implementing the Agricultural Credit Act of 1987 and the System reorganization (increased costs to be offset by savings in administrative expenses and staff attrition in other functional areas). | |
| Increase in benefits costs as an increasing proportion of the FCA staff is covered by FERS | 342,000 |
| *Travel:* the more than 300 FCA examiners spend 70 percent or more of their time in travel status. In addition to the anticipated inflation in travel costs, the budget increase reflects the effect of the increased Government per diem rate | 83,000 |
| *Transportation of Things:* A continued decrease in the use of messenger services and overnight mail is anticipated as a result of the establishment of the field office telecommunications network | −44,000 |
| *Communications, Utilities, and Other Rent:* Anticipated increases in postal land telephone rates | 17,000 |
| *Printing and Reproduction:* Increases in printing costs associated with the issuance of regulations, examination reports, and other related data to the banks and institutions | 8,000 |
| *Other Services:* Anticipated savings in administrative expenses | −2,000 |
| *Supplies and Materials:* Anticipated savings in administrative expenses | −28,000 |
| *Automatic Data Processing Equipment:* Includes purchases/leases of computer hardware and software related to the continued upgrade and operation of the consolidated reporting system. Increases result from the deferral of purchases from FY 1989 and the replacement of older workstations with IBM-compatible equipment | 720,000 |
| Fiscal year 1990 budget | 37,241,000 |

## OBJECT CLASSIFICATION SCHEDULE

[In thousands of dollars]

| Object Class | FY 1989 | Change | FY 1990 |
|---|---|---|---|
| Personnel compensation: | | | |
| Full-time permanent | 21,230 | 1,319 | 22,549 |
| Other than full-time permanent | 721 | −47 | 674 |
| Other personnel compensation | 478 | 11 | 489 |
| Special personal services payments | 0 | 0 | 0 |
| Total personnel compensation | 22,429 | 1,283 | 23,712 |
| Personnel benefits: Civilian | 4,645 | 221 | 4,866 |
| Benefits for former personnel | 0 | 0 | 0 |
| Travel and transportation of persons | 3,856 | 83 | 3,939 |
| Transportation of things | 134 | −44 | 90 |
| Communications, utilities, and other rent | 923 | 17 | 940 |
| Printing and reproductions | 184 | 8 | 192 |
| Other services | 2,017 | −2 | 2,015 |
| Supplies and materials | 511 | −28 | 483 |
| Equipment | 284 | 720 | 1,004 |
| Total obligations | 34,983 | 2,258 | 37,241 |

## Comparison of Assessments for FY 1987, 1988, and 1989

All Farm Credit Institutions

| District | Actual FY 1987 | Actual FY 1988 | Estimated FY 1989 |
|---|---|---|---|
| Springfield | 1,385,180.96 | 1,607,675.45 | 1,679,814.27 |
| Baltimore | 1,905,975.43 | 2,232,972.14 | 2,347,523.61 |
| Columbia | 2,722,669.94 | 2,711,559.23 | 3,005,558.94 |
| Louisville | 2,384,168.72 | 2,569,110.36 | 2,756,860.45 |
| Jackson | 1,612,611.26 | 1,640,954.67 | 1,601,793.00 |
| St. Louis | 2,301,558.77 | 2,363,364.21 | 2,591,249.30 |
| St. Paul | 4,215,934.64 | 4,280,512.27 | 4,687,171.62 |
| Omaha | 2,302,080.35 | 2,460,174.33 | 2,652,933.42 |
| Wichita | 2,402,478.17 | 2,471,660.03 | 2,675,221.38 |
| Texas | 2,342,909.26 | 2,452,368.12 | 2,672,008.85 |
| Sacramento | 4,176,212.16 | 4,182,296.02 | 4,607,895.74 |
| Spokane | 1,936,326.84 | 1,858,430.10 | 2,056,958.42 |
| Central Bank | 1,422,913.36 | 1,546,340.02 | 1,648,011.00 |
| Total | 31,111,019.86 | 32,377,416.95 | 34,983,000.00 |

## Comparison of Assessments for FY 1987, 1988, and 1989

Federal Land Banks and Associations

| District | Actual FY 1987 | Actual FY 1988 | Estimated FY 1989 |
|---|---|---|---|
| Springfield | 511,115.72 | 566,979.96 | 604,438.27 |
| Baltimore | 907,832.47 | 1,044,510.06 | 1,101,835.61 |
| Columbia | 1,474,722.79 | 1,461,348.59 | 1,638,038.94 |
| Louisville | 1,051,285.51 | 1,146,786.30 | 1,227,641.45 |
| Jackson | 700,733.94 | 692,359.93 | 572,004.00 |
| St. Louis | 1,230,217.57 | 1,235,042.03 | 1,387,350.30 |
| St. Paul | 1,676,327.36 | 1,719,596.82 | 1,870,497.62 |
| Omaha | 1,334,460.59 | 1,456,608.68 | 1,586,414.42 |
| Wichita | 1,246,836.20 | 1,316,263.91 | 1,427,075.38 |
| Texas | 1,041,916.44 | 1,092,993.97 | 1,202,288.85 |
| Sacramento | 1,548,528.15 | 1,575,069.90 | 1,737,143.74 |
| Spokane | 1,085,184.63 | 1,063,713.38 | 1,173,077.42 |
| Total | 13,809,161.37 | 14,371,273.53 | 15,527,806.00 |

## Comparison of Assessments for FY 1987, 1988, and 1989

Federal Intermediate Credit Banks and Production Credit Associations

| District | Actual FY 1987 | Actual FY 1988 | Estimated FY 1989 |
|---|---|---|---|
| Springfield | 774,547.92 | 948,091.58 | 972,985.00 |
| Baltimore | 920,635.15 | 1,089,801.89 | 1,136,569.00 |
| Columbia | 1,106,671.50 | 1,122,599.44 | 1,223,810.00 |
| Louisville | 1,134,267.47 | 1,225,265.38 | 1,312,458.00 |
| Jackson | 741,626.29 | 780,602.09 | 841,027.00 |
| St. Louis | 909,152.88 | 922,217.91 | 991,955.00 |
| St. Paul | 2,189,808.89 | 2,230,848.58 | 2,448,367.00 |
| Omaha | 804,862.96 | 810,807.56 | 868,020.00 |
| Wichita | 948,913.74 | 930,929.47 | 1,008,343.00 |
| Texas | 1,187,124.04 | 1,243,404.73 | 1,342,091.00 |
| Sacramento | 2,377,424.60 | 2,390,884.75 | 2,631,000.00 |
| Spokane | 714,125.93 | 675,820.04 | 751,181.00 |
| Total | 13,809,161.37 | 14,371,273.42 | 15,527,806.00 |

Comparison of Assessments for FY 1987, 1988, and 1989

Banks for Cooperatives

| District | Actual FY 1987 | Actual FY 1988 | Estimated FY 1989 |
|---|---|---|---|
| Springfield | 99,517.32 | 92,603.91 | 102,391.00 |
| Baltimore | 77,507.81 | 98,660.19 | 109,119.00 |
| Columbia | 141,275.65 | 127,611.20 | 143,710.00 |
| Louisville | 198,615.74 | 197,058.68 | 216,761.00 |
| Jackson | 170,251.03 | 167,992.65 | 188,762.00 |
| St. Louis | 162,188.32 | 206,104.27 | 211,944.00 |
| St. Paul | 349,798.39 | 330,066.87 | 368,307.00 |
| Omaha | 162,756.80 | 192,758.09 | 198,499.00 |
| Wichita | 206,728.23 | 224,466.65 | 239,803.00 |
| Texas | 113,868.78 | 115,969.42 | 127,629.00 |
| Sacramento | 250,259.41 | 216,341.37 | 239,752.00 |
| Spokane | 137,016.28 | 118,896.68 | 132,700.00 |
| Central Bank | 1,422,913.36 | 1,546,340.02 | 1,648,011.00 |
| Total | 3,492,697.12 | 3,634,870.00 | 3,927,388.00 |

## FEDERAL AGRICULTURAL MORTGAGE CORPORATION

Senator BURDICK. Your budget submission shows no assessments for the Federal Agricultural Mortgage Corporation. How are you charged with regulating this corporation?

Mr. DUNCAN. We will be assessing the Federal Agricultural Mortgage Corporation in the first year that it is in existence and that we examine that corporation. As yet we have not made an assessment. As you know, they have only recently held the organizational meeting of their permanent board, and it is anticipated at this juncture that they will not begin operation until late in 1989, but they will be assessed for their examination costs.

Senator BURDICK. What costs are you incurring in 1989 and what costs do you expect to incur in 1990 to regulate the Federal Agricultural Mortgage Corporation?

Mr. DUNCAN. As yet we do not know the full extent of the costs that we will incur in 1990. We are, at this juncture, still preparing regulations with regard to the capital position of the Federal Agricultural Mortgage Corporation; regulations that will establish the capitalization requirement for that institution, and we, of course, are requiring disclosure—financial disclosure—on a quarterly basis by that organization to its stockholders and investors.

We will have to determine, of course, how much time is required by the agency in the examination and other regulatory responsibilities with regard to the Federal Agricultural Mortgage Corporation, and we will then make an assessment in accordance with that.

## FCA TO ASSESS FAMC FOR COSTS

Senator BURDICK. The Senate report for 1989 clearly states that the FCA should identify the full costs associated with regulating this new market, including space costs and overhead and to assess the Federal Agricultural Mortgage Corporation for them.

Mr. DUNCAN. We intend to do so, Mr. Chairman. We do not expect that it will require additional space requirements beyond what we currently have in the agency, but as yet, we have not determined the extent of the costs associated with the regulatory oversight of the Federal Agricultural Mortgage Corporation. We will be doing so this year.

### FARM CREDIT SYSTEM ASSISTANCE CORPORATION

Senator **Burdick**. To date, the Farm Credit System Assistance Corporation [FAC] has issued $690 million in debt. Early estimates were for another $200 million to be issued this year. Is that estimate still accurate?

Mr. **Duncan**. Was that question directed to the Farm Credit Administration, Mr. Chairman?

Senator **Burdick**. I had reserved that question for Mr. Thor, but you can take a shot at it too if you would like.

Mr. **Duncan**. I think at this juncture it is difficult for us to determine at the FCA what will be required in terms of financial assistance. There will probably be some other institutions requesting financial assistance from the assistance board, and it of course is within their jurisdiction to decide how much assistance and what type of assistance will be provided.

I think it is reasonable to assert that most of the Farm Credit institutions have turned the corner and are headed on a track toward financial stability. However, some institutions have yet to turn that corner, and the institutions as a group have a substantial distance to travel before they will have regained financial stability.

Senator **Burdick**. Well, Mr. Thor, what is your answer to my question?

Mr. **Thor**. Senator, I would also like to suggest that it is probably premature to tell exactly what amount is going to be expended, since the agricultural economy, interest rates, and a number of major uncertainties, at this point, make it hard to predict the exact amount that would be required ahead of time.

As I testified last year, that process depends upon the unique nature of the problems in each one of the institutions that may apply to us.

We are looking very carefully at those factors, and have a number of ongoing discussions with institutions that may apply for assistance in 1989.

So I think it is premature to come up with any forecast, but, considering there are a number of institutions, in total, that have over $55 billion in liabilities, I think it is important that we do preserve a very conservative view.

Senator **Burdick**. What you are saying is, more money will be needed, but you do not tell me how much.

Mr. **Thor**. Senator, at this time, I do not know how much money will be needed.

Senator **Burdick**. I yield to Senator Bumpers.

Senator **Bumpers**. Mr. Thor, just following up on that, was the first statement by the chairman correct as to how much you have issued so far, $690 million?

Mr. **Thor**. That is correct.

Senator **Bumpers**. And stock?

Mr. **Thor**. That is correct, sir.

Senator **Bumpers**. How much of that is remaining?

Mr. **Thor**. How much do we need to remain?

Senator **Bumpers**. No; out of the $690 million, is there any remaining, or have you expended it all to these institutions that need help?

Mr. **Thor**. We have expended it all. And we have another stock issue heading toward the market right now.

You have, excuse me, Senator, there is an amount, approximately $30 million, which is called prefunded amount. But it has been basically set aside to help in any uncertain situations we have, including some of the institutions that we have already certified.

Senator **Bumpers**. Now, how much are you planning? And you say you have got another issue getting ready to go to market. How much is that going to be?

Mr. **Thor**. Well, we do not know at this exact time what the exact amount or timing would be, but we will estimate around $155 million.

Senator **Bumpers**. So you could conceivably issue another $200-plus million this year in stock, is that correct?

Mr. **Thor**. We could conceivably, yes, Senator.

Senator **Bumpers**. What is your assessment of the condition of these institutions that your board is designed to help?

Mr. **Thor**. Well, I think at the present time I would have to say, first of all, significant progress has been made in each one of these institutions that we have assisted. They showed their first positive net income in 4 years. Louisville had a slight profit, St. Paul made close to $83 million, Omaha $166 million.

The system, itself, showed a $704 million profit, yet, net operating income, the money being made from their basic businesses, very fragile. Indeed, one of those showed almost over a $35 million loss.

So I am cautiously optimistic, we are making progress, but I think we are far from being out of the woods.

Senator **Bumpers**. Well, we had a $57 billion farm profit last year, the biggest in history. And, as I understand it, a lot of farmers got current on their loans to these institutions.

Now, I am sure there are places, like in the Dakotas, where the drought was much worse, where that would not be the case, but when we passed this Agriculture Credit Act in 1987, we authorized this board and we authorized you to issue up to 4 billion dollars' worth of stock.

Is that correct?

Mr. **Thor**. That is correct, $2.8 billion; and then if we issue a report to Congress, we can get an additional $1.2 billion.

Senator **Bumpers**. Now, out of the $2.8 billion, would you care to hazard a guess right now as to how much of that you are going to need?

Mr. **Thor**. Senator, I would not. Again, with some $55 billion in liabilities still out there of the system, to try to forecast any precise amount at this time, I think is very premature, considering the kind of uncertainties we see ahead in the agricultural economy, the exports markets, interest rates, and the fragile nature of each one of those institutions.

Senator **Bumpers**. Well, they are not all fragile, are they?

Mr. THOR. Senator, I think many of them are fragile——

Senator BUMPERS. But, they are not all fragile, Mr. Thor. You will agree, for example, Delta PCA down in south Arkansas is not fragile. At least it was not before you started tapping them on their reserves.

Mr. THOR. Senator, the Financial Assistance Corporation, which is headquartered in New York, is essentially a sister corporation to the assistance board. It is a nongovernment corporation as part of the farm credit system, it is not part of the assistance board.

Senator BUMPERS. Well, let me ask you this. Is that the organization that levies the assessments against the institution as a backup for the stock issues that your board issues?

Mr. THOR. That is correct. The Financial Assistance Corporation, which is part of the farm credit system, and not part of the Federal Government, as is the assistance board, is the organization that has instituted the assessment process against certain system institutions based upon their interpretation of the 1987 act.

Senator BUMPERS. And what was the total of the assessments that were to be levied by them against the institutions?

Mr. THOR. Senator, I believe it was approximately $177 million.

Senator BUMPERS. Well, it was precisely $177 million, was it not?

Mr. THOR. I believe it was $177.4 million, but I stand to be corrected, sir.

Senator BUMPERS. Now, have they already assessed and received that amount from these institutions?

Mr. THOR. I believe they have.

Senator BUMPERS. So, in short, they have assessed all these institutions the total amount, anticipating the issuance of up to 4 billion dollars' worth of stock, even though no more than $1 billion may be issued.

Is that a fair statement?

Mr. THOR. Well, Senator, as I testified last year and this year, I think it is premature to tell exactly how much is going to be issued over the 5-year life——

Senator BUMPERS. Make it $2 billion. Would you estimate right now that they will issue stock of more than $2 billion?

Mr. THOR. Well, again, Senator, in the President's budget, they are estimating that some $2.8 billion would be issued over the life of this board.

Whether that happens or not will depend upon future events.

Senator BUMPERS. Well, if it does, that is fine. I voted for this act. And you know what my quarrel is. My quarrel is that you are assessing these institutions based on the assumption that $2.8 billion or $4 billion, I forget which, will be issued in stock.

And you are taking these assessments from these farm credit institutions, such as PCA's and Federal land banks, and you are assessing them $177 million to back up the issuance of that stock.

Now my point is that if you never issue more than 25 percent of stock, only 25 percent of the $177 million is needed as a backup for the issuance of stock. Yet you are assessing them, and quite frankly, jeopardizing the financial condition of some of the more viable institutions.

And I might also say, they will never get a dime of it back. If you never issue more than 1 billion dollars' worth of stock, I promise you, you will never refund a dime to those institutions. They will have just lost it.

Now that is the purpose of my amendment. And, Mr. Thor, I know that you are very familiar with that amendment, are you not?

Mr. THOR. Senator, I am.

Senator BUMPERS. And you are very much opposed to it, as I understand it. Is that correct?

Mr. THOR. Senator, I do not think that is a proper characterization. As you know——

Senator BUMPERS. You do not like it, do you?

Mr. THOR. Senator, as you know, the compromise that was very carefully crafted in the 1987 legislation——

Senator BUMPERS. Well, I was not there. You did not invite me to help craft it.

Mr. THOR. Senator, I was not there either.

Senator BUMPERS. I do not think it was so carefully done.

Mr. THOR. OK.

Senator BUMPERS. And then you have got OMB coming in here and saying that this is going to bankrupt the country if my amendment goes through October 1, this year. As you know, Jamie Whitten and I agreed to postpone the implementation of that to accommodate some concerns. And I might not have had the votes in conference to pursue it.

But all I am saying is that I think it is outrageous to assess some of the best institutions that are remaining in this system to the point where they may not be viable in the future, and where the money is not necessary.

You are taking $177 million to back up a $4 billion stock issue, and you may only issue 25 percent of that amount. Why assess them more than you have to at the time?

Our best PCA's and Federal land banks are willing to put up their full share of the $177 million. They just do not want to do it until you have to have it.

Let us just assume that we are going to issue $1 billion, ultimately, to save these institutions, and I am for that. I do not quarrel with the assessment against these institutions to back up that stock issue. What I quarrel with is your taking the entire assessment on the front end, even though you know and I know that up to 75 percent of your authority will never be exercised.

And I promise you, these people will never get a dime of that assessment back.

It is only fair to assess them as you issue your stock, and not on the front end. Because you are jeopardizing, you are literally jeopardizing some of the best run institutions in the country.

Do you care to respond to that, Mr. Thor?

Mr. THOR. Well, Senator, let me point out two things. First of all, as you well appreciate, each one of the farm credit institutions is jointly and severally liable for some 55 billion dollars' worth of debt outstanding.

So, regardless of the amount of the $4 billion we use or not use, they could need funds from trust fund, because of obligations of other system institutions to pay interest or principal of the bonds. And one of the major things causing the legislation in 1987 was that the various capital preservation and funding mechanisms within the system did not work.

When the 1987 act was crafted, the Secretary of the Treasury, and he, I believe was one of the strongest proponents and a member of my board, spoke out very vehemently on how that had to be crafted in order for it to remain off budget. It was carefully worked out between them. I was not party to that.

I obviously have been aware of the discussions going on and will be happy to carry your message back to the Office of Management and Budget who does do the scoring, on your concerns.

Senator BUMPERS. Can you tell me how OMB decided that my amendment would force the farm credit bailout on budget for 1990 to the tune of $810 million in budget authority? How in the world can a $177 million assessment cost the Treasury $810 million in a budget authority?

Mr. THOR. Again, Senator, the Office of Management and Budget does the scoring. I am not the expert on that. The assistance board focuses on its limited mission with the 20 staffers we have to try to help the financial viability of those institutions that are out there.

As you know, Delta is not one of those certified institutions, and hopefully will never be a certified institution.

And I will be happy to get back to you in writing on how OMB calculated their results.

Senator BUMPERS. Well, Mr. Thor, let me just close. Mr. Chairman, I appreciate your indulgence in my taking this much time, but I do want to say this. Some of the farm groups have come to me, not these institutions who are being assessed, but other farm groups, and said, Senator, if you pursue this amendment, we may very well have to choose between your amendment and target prices and supports and loans, and that sort of thing.

Now, what kind of nonsense is that? I am not suggesting that you are purposefully putting that kind of information out. But I really do deplore the, what shall I say, the excessiveness of some of the arguments that are being made against the Bumpers amendment.

And it is unfair. I want to fight this fight fairly and equitably. And I intend to do just that. And I think OMB cannot possibly justify that kind of a finding. Sometimes I wonder who is running this country, OMB or the President. They come up with some of the craziest things over there I have ever seen, and this is just a classic case in point.

But, anyway, Mr. Thor, I hope you will not be a party to exciting some of these farm groups by suggesting that the Bumpers amendment is going to cost them their target prices or any other kind of nonsense like that. And I am sure you would not.

Mr. THOR. As you know, Senator, we have not spoken on the issue nor do we intend to; that is a budgeting matter for the budgeting experts, and we leave it in their kind hands.

Senator BUMPERS. Mr. Duncan, do you have any comment on this?

Mr. DUNCAN. No, sir; we have, as a regulator, not taken a position on this matter. It is a matter that is a legislative issue between the legislators and the executive branch.

Senator BUMPERS. Thank you, Mr. Chairman.

Senator **Burdick**. Senator Kerrey.

Senator **Kerrey**. Mr. Duncan, I am sure you are aware of the demonstration project authorized by the Agricultural Credit Act of 1987.

### FMHA DEMONSTRATION PROJECT

Senator **Kerrey**. You're familiar with the demonstration project provisions of the 1987 act?

Mr. **Duncan**. Yes, sir.

Senator **Kerrey**. I have talked to Jim Kirk with the Omaha bank, and there appears to be a problem with implementation of the demonstration project. I would like to know what sort of guidance you can give Mr. Kirk, or what sort of guidance you can give me to try to eliminate the problem.

Let me describe it; maybe you know it. Maybe it is different than as I describe it. The catch appears to be that if the farm credit system is to offer the repossessed land that they have in their inventory to buyers as prescribed in the demonstration project, they often feel they have to try to get the highest price they can. Frequently, however, the biggest bid is not made by a farmer eligible under the demonstration program.

And, in fact, the farm credit system has asked for an exception to be made by the Farmers Home Administration, under the demonstration project, so that the farm credit system actually can be exempted from having to sell the land to eligible farmers under the demonstration program.

So if I am a farmer eligible under the demonstration program and I bid on a piece of land, and we come to terms on the land, the farm credit system may say, well, we want to have the right, if we can find a higher buyer, to sell it out from underneath me; which makes it rather difficult for me to move to closure on the property if I know that the farm credit system might get a higher bid after they have agreed with me that they will conditionally sell it to me.

What can we do to resolve the problem? Because it seems to me the demonstration project has great merit. One of the things that happened in the 1980's is that we aged the farm population enormously by putting out of business an awful lot of younger operators, and now other young farmers are trying to get back into business.

It seems to me that we ought to be able, particularly given the resources that are available, to make this demonstration project work; and not have to sit there and watch the inventory essentially go to operators that we did not have in mind when the demonstration project was put in place in the first place.

### OMAHA BANK PARTICIPATION IN PROJECT

Mr. **Duncan**. Senator Kerrey, did you indicate that the Farmers Home Administration is requiring that the property be sold to the highest bidder?

Senator **Kerrey**. As I understand it, the regulation that the Farmers Home Administration developed actually allows the farm credit system to reserve the right to sell the property to the highest bidder. For example, if I come to terms with the Farm Credit

System of Omaha for 300 acres of farmland that they have in their inventory, I am going to pay $1,100 an acre, the problem is that, if the system can find a higher bidder after we have come to terms, and you have a period of time to do it, and I do not know what the exact terms are, you, in fact, can sell the land to the other buyer.

And what seems to be happening out there is that the people to whom we are trying to get the land, who are qualified operators, are having difficulty qualifying.

Mr. DUNCAN. Senator, if you would permit me to do so, let me check into that issue more carefully with our staff, our examiners, and get back to you in writing in response to your question.

It sounds like a very useful question, and I want to be sure that we respond fully and accurately to that question.

Let me say as well, that we at the Agency are very supportive of the demonstration project and we are, in the course of our examination work, examining institutions that receive assistance and come under the auspices of the demonstration project for their compliance with it.

And I want to check with our people to make sure that I can respond fully to that question.

Senator KERREY. I would urge you to talk with Jim Kirk about it, because the specifics are such that we have situations out there where an extra $50 an acre out bids somebody that had the land.

We are not talking about giving the land away, now. We are not talking about putting into farming somebody with no experience. The farm credit system does all the credit assessment, they have assessed the risk, they have looked at the operator, and if the capital requirements are met, everything is good.

And it is precisely the type of farmer the demonstration project was intended to benefit. And then they find themselves getting out bid by $50 to $100 an acre. We have the resources I think to make this thing work.

You may have to ask us to do something with the law. I suspect that you would find a ready audience here to get that done.

Mr. DUNCAN. Let me check into that, Senator, and we will respond fully to that question. It seems like a very useful question. And we will respond fully to that.

[The information follows:]

The Farmers Home Administration (FmHA) Demonstration Project authorized by the Agricultural Credit Act of 1987 provides for eligible participants to obtain an FmHA-guaranteed loan with a reduced interest rate from either a Farm credit institution or other commercial lender to purchase acquired property offered for sale by certain Farm Credit institutions. The FmHA is responsible for setting eligibility criteria for participants and determining who meets the criteria.

The program applies to Farm Credit institutions certified under Section 6.4 of the Farm Credit Act of 1971, as amended. The statute provides that a certified institution shall sell the acquired property to such eligible borrowers at fair market value and, to the extent practicable, set aside acquired property for the project with an aggregate value not to exceed $250 million annually.

The FCA completed a special examination as of January 31, 1989, of the Farm Credit Bank of Omaha. The scope of the examination included a review of the bank's program and procedures developed to participate in the demonstration project. The examination disclosed that the bank had procedures in place to coordinate with the FmHA and commercial banking lenders.

The FCA continues to monitor the bank's policies and participation in the project through its ongoing examination program and offsite monitoring activities. FCA oversight has not found instances of the bank not honoring written loan/sales contracts with eligible participants in the FmHA project.

The FCA has apprised Mr. James Kirk, President an Chief Executive Officer of the Farm Credit Bank of Omaha, of Senator Kerrey's inquiry so that the institution also may address the Senator's concerns.

Senator **Kerrey**. Thank you.

Senator **Burdick**. Senator Kasten.

Senator **Kasten**. Mr. Chairman, I have no questions at this time for this panel.

Senator **Burdick**. Senator Grassley.

Senator **Grassley**. Thank you, sir.

My first question is to you, Mr. Thor. It involves the responsibility of the Board to monitor debt restructuring activities of institutions receiving assistance.

As you know, part of the restructuring process monitored in the bill, sets up the credit review committee for borrowers whose restructuring offers have been denied. Of course you know this was intended to give the farmers kind of a neutral hearing ground for their cases.

What are the results of these credit review committees among the institutions that you monitor?

Mr. **Thor**. Senator, there is a requirement that certified institutions set up what is termed, SAG's, or special asset groups.

Each decision that the bank makes to not restructure a loan has to go before this special group to be reviewed. And at that time all the documentation, all the discussions with the borrowers, et cetera, in the credit files are reviewed.

The results from the certified institutions are monitored by the National Special Asset Council, which was established by the Assistance Board. They are to make quarterly reports to the Assistance Board, as they have been doing for the first several months.

The net result, for example, in Louisville, which is the one that is the furthest along, has been that the majority of cases, indeed, all the cases to date that have been denied, have been reviewed and concurred with by the Special Asset Group, which is this independent body.

The law was quite specific, that the National Special Asset Council, which is not part of the Assistance Board, was set up to monitor that. They have found no cases to date in which the borrowers had not been given their full restructuring rights.

In Omaha, that process, because they were certified later, is now only approximately 100 days old. I would have to check the exact date. In St. Paul it is even less.

Senator **Grassley**. Within the Omaha district, as you know, not a single case has been decided on behalf of the farmer. Officials at Omaha, of course, portray this to us as good news. The cases are resolved otherwise.

And of course I hope that is the case most of the time. But I am skeptical of a process when not one case has been decided for the farmer.

So, has the Assistance Board examined the credit review process and what have you found in, specifically, the Omaha district?

Mr. **Thor**. Again, Senator, each of the banks has to set up this Special Asset Group. The National Special Asset Council is just an oversight group. In fact, specifically, in the legislation, it does not have the ability to overturn individual cases.

The National Special Asset Council does have a mandate to report to you. And, Senator, what I would like to do is ask this National Special Asset Council to put together a letter to you in Omaha, exactly where they are.

Senator **Grassley**. OK. But I think from your standpoint of supervision, I need to know then whether or not you see that there are problems in the process. Are there not problems?

Mr. **Thor**. At the present time I am not aware of any problems. I do know that there is a substantial amount of restructuring going on within Omaha. I do not have with me this morning the exact numbers on that restructuring or the number of cases that SAG has reviewed at this time.

Senator **Grassley**. So then, whether or not the situation is such that there is something in Omaha you would need to do something about, or your assessment of that then, has to be submitted in writing?

Mr. **Thor**. We can submit it in writing.

I will tell you, Senator, I did recently go to the Omaha district and hold a farmers meeting, contacting your office and others, as well as the bankers associations and some of the farm groups. Being from Nebraska, I also contacted through our networks there.

The responses I got did not show that there was a substantial problem there. But if you are convinced there is, we will be happy to follow up and try to find out, what is the core of the problem and where are we going in some specific cases.

Senator **Grassley**. Well, I want to make clear, I am not convinced there is a problem, but I am going from the standpoint that, statistically, not one single case has been decided to the benefit of the farmer. And, from that standpoint, it is hard for me, with all problems we have in that four-State area, not to be me a little skeptical.

Mr. **Thor**. Yes.

Senator **Grassley**. And that is the way I approach you.

Mr. **Thor**. OK.

Senator, we share your concern. I will get the total number of loans that are being restructured and the total number of loans that are being given to the Special Asset Group and then get back to you with those numbers.

I think you will see that, as the Special Asset Group has looked at the files, their decisionmaking process within that bank has been much more appropriate than it was 3 or 4 years ago.

We will deal with that.

Senator **Grassley**. Well, if you find a problem in Omaha or anyplace else, I guess to fulfill the role of oversight, you have a commitment to take action. And what that action might be, that is what I need to know.

Mr. **Thor**. OK, Senator.

Senator **Grassley**. Do you have anything that you can say right now, if there is something wrong?

Mr. **Thor**. I am not aware of anything at this time.

Senator GRASSLEY. No. I said, if there is something wrong. If after your review of this you find something wrong, what you are prepared to do about it.

Mr. THOR. Well, Senator, if we discover something wrong, first of all, we will consult with the regulator, the Farm Credit Administration, and our board of directors, and then figure out what the appropriate course of action is, and take it.

Senator GRASSLEY. Now, it could be that this process is unnecessary. And, if so, it should be removed as an unnecessary burden on both the resources of the farmer and the Farm Credit System.

And also if it offers some false hope to farmers. If the process should be changed, Congress ought to be informed of that and receive substantiation as to why. And of course if the process is OK, then that is what I want to know and what you are going to tell me about what is happening in Omaha and why.

And so I will appreciate that full report.

If I could ask you, Mr. Duncan, unrelated to what I just talked about, but I am interested in how you view the drought situation. Last year, the Midwest experienced one of the worst droughts of the century. And the severity of the drought is compounded by the possibility of another year of drought in some sections of the country.

And to this date, my State would still be 10 inches short. And you know we received very little rain in the last 5 months and very little snow cover.

In your testimony last year, you discussed the need for the flexibility in funding because of unknown aspects of the drought. Your testimony failed to even mention the effects of the drought this year.

My concerns are twofold. First, for the borrowers. Those borrowers who have just restructured and those who have just escaped restructuring probably do not have sufficient flexibility in their cash flow to withstand another year like last year.

The special drought assistance package that the Omaha district provided its borrowers was only available to those with no adverse credit history. And so I am concerned that those farmers who are just barely hanging on and would be able to make it with a normal crop year, but will have significant difficulty in another drought.

For the remaining district borrowers and the financial system that serves them, I would like to know what kind of contingency plans you have, in terms of financing, if the system again experiences losses due to drought.

I understand that you have already responded to questions about anticipated financial needs for the rest of the year and into next year, so what would you do in the case of the repeat in some sections, even though it might not be as widespread for the drought for next year?

Mr. DUNCAN. Senator, as I understand the question, it is, what would the Farm Credit Administration do if there were drought circumstances that put pressures on farmers and on the Farm Credit institutions from whom they borrow?

We, of course, do not have the financial capacity to augment the resources of those institutions. If those institutions become impaired in their stock, they then have the option of going to the Assistance Board to request financial assistance under the 1987 legislation.

Senator GRASSLEY. OK. So that is where your involvement would be.

Mr. Thor, then what about for you, in the case of drought? Again, the repeat of a drought and the capability of——

Mr. THOR. Well, again, Senator, with both a producing farmer and the Secretary of Agriculture on our board, we remained very close to the drought situation and what is happening. I did discuss the impact of the drought with each of the boards of directors, including the board in Omaha.

I asked for early warning signs and signals from them. We were made aware of the kinds of decisions that individual farmers were making, both through our listening sessions as well as our interactions with the bank.

We continue to have that process in place. And, indeed, I am planning to be with all the boards of directors in the next 60 days to assess that.

At this time, they are seeking to come up with appropriate solutions.

For example, I believe in the Louisville district they have just announced several positive steps toward better coordination between FmHA and the Farm Credit System so it could take care of some of these marginal borrowers that have high debt leverage and are the ones that are the most seriously challenged by any drought situation.

Senator GRASSLEY. Are you in the loop for the weekly reporting of the Drought Watch Task Force that operates within USDA?

Mr. THOR. I am in the loop in the sense I receive the reports.

Senator GRASSLEY. OK.

Mr. Chairman, I am done.

Thank you all very much.

Mr. THOR. Thank you, Senator.

Senator BURDICK. Thank you, Mr. Thor and Mr. Duncan. You are now released. We will go the next panel.

Mr. THOR. Thank you, Senator.

Mr. DUNCAN. Thank you, Mr. Chairman and Senators.

Senator GRASSLEY. I have some additional questions I am going to submit for an answer in writing.

## SUBMITTED QUESTIONS

Senator BURDICK. I was going to say to the panel, we will submit to you some additional questions, and I hope you give us some timely answers.

Mr. THOR. We will plan on doing that, Senator, and thank you very much for the opportunity.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

## FARM CREDIT SYSTEM ASSISTANCE BOARD

## QUESTIONS SUBMITTED BY SENATOR BURDICK

### INTEREST EXPENSE FOR 1990

Question. The President's budget shows an estimate in 1990 of $123,000,000 for the Federal share of interest expenses of the Farm Credit Financial Assistance Corporation debt. The Congressional Budget Office estimates that no more than $88,000,000 will be needed. What is your estimate of the interest expense for 1990?

Answer. Interest expense in the amount of approximately $41 million will be incurred in 1990 as a result of financial assistance that has already been provided. Additional interest expense will be dependent upon the provision of additional financial assistance. While the System institutions that have been provided financial assistance and the System as a whole appear to be on the road to financial recovery, the agricultural economy is subject to a number of variables, which, depending upon the circumstances, can have a significant affect on the financial institutions that lend in the agricultural area. Accordingly, it is difficult to predict with any degree of certainty how much additional assistance will be needed. However, we believe that the estimate in the President's budget, in view of current conditions, is a reasonable one.

### INTEREST EXPENSE FOR 1989

Question. In 1989, we appropriated $175,000,000 for interest expenses, but the budget estimates that $134 million of that amount will lapse unused. Based on your up-to-date knowledge of the current situation, is the estimate of $41 million in interest expenses accurate for 1989?

Answer: During FY 1989, Treasury will fund interest on FAC debt obligations of approximately $38 million.

---

## QUESTIONS SUBMITTED BY SENATOR COCHRAN

### CERTIFICATION OF FARM CREDIT SYSTEM INSTITUTIONS

Question. The Farm Credit System Assistance Board is responsible for certifying financially troubled Farm Credit System institutions to receive financial assistance and for ensuring that such assistance is used efficiently to benefit farmers, ranchers, and cooperatives. The FCSAB can also ask the Farm Credit Administration to appoint a receiver or a conservator or may request FCA to require the institution to merge or consolidate with another. What institutions have you certified as being financially troubled? Have you recommended the appointment of a receiver that has not been acted upon? What mergers or consolidations have you recommended?

Answer. The Farm Credit System Assistance Board has certified the following institutions:

Farm Credit Bank of Omaha
Farm Credit Bank of St. Paul
Federal Land Bank of Jackson (now in receivership)
Federal Land Bank of Louisville (now the Farm Credit Bank of Louisville)

In addition, as required by the Farm Credit Act of 1971, as amended, the Assistance Board authorized the Farm Credit System Financial Assistance Corporation to provide funds for six production credit associations in liquidation in the Farm Credit Districts of Omaha and Spokane and the receiver for the Federal Land Bank of Jackson in Receivership to enable the retirement of eligible borrower stock at par value.

The Assistance Board recommended to the Farm Credit Administration Board that the Jackson Bank be placed in receivership, which the FCA Board did on May 20, 1988. The Assistance Board has not recommended the appointment of additional receivers.

To date, although the Assistance Board has considered the possibility of merger or consolidation with each decision to certify an institution, the Assistance Board has not recommended any mergers or consolidations in connection with the provision of financial assistance.

## JACKSON FEDERAL LAND BANK IN RECEIVERSHIP

Question. Please describe the situation in Jackson concerning the receiver.

When will the Receiver leave Jackson?

What are the costs associated with the Receiver? Please describe the recent Jackson asset sale.

Will there be any shortfall between sale price and value of the assets?

If so, how will that shortfall be made up?

Would you ever contemplate triggering joint and several liability to make up any shortfall?

Answer. Although the FCA is directly responsible for oversight of the receiver for the Jackson Bank, Assistance Board has been informed by the FCA and the receiver of the progress of the liquidation since the Jackson Bank was placed in receivership on May 20, 1988. On February 10, 1989, the receiver sold approximately $1.1 billion of loans to the Farm Credit Bank of Texas at a price of approximately $940 million. This represented about 16,800 loans, and was nearly 80 percent of the Jackson Bank's assets. The FCA simultaneously granted long term agricultural lending authority for Mississippi, Alabama, and Louisiana to the Texas Bank.

The Assistance Board has been informed that the receiver is in the process of constructing bid packages for the sale of the remaining loans, which total approximately $400 million. The receiver also recently announced that $25 million of acquired property, representing nearly 51,000 acres, will be auctioned beginning April 14, 1989. This is about 50 percent of the acquired property held by the receiver.

At this time, the Assistance Board cannot predict how long it will take the receiver to complete the liquidation of the Jackson Bank. The process of wrapping up the receivership's affairs depends on how rapidly the receiver can sell the remaining assets, resolve litigation involving the Jackson Bank, and conclude other outstanding claims on the receivership. The Assistance Board does not have detailed data on the receiver's administrative costs. However, the Assistance Board believes its previous estimate on the total cost of liquidation will be within range of the actual costs.

The Jackson Bank has approximately $800 million in debt obligations for which all System banks are jointly and severally liable. It appears there may be some debt obligations remaining after the receiver disposes of the Jackson Bank's assets. The amount of this shortfall depends on how much the receiver is able to recover on the remaining assets, how much longer the liquidation process takes, and what liabilities, if any, result from litigation.

The Act establishes joint and several liability as the statutory method of making interest and principal payments on the debt obligations a Farm Credit System institution is unable to pay. A number of possible methods are being evaluated for funding the shortfall, including joint and several liability. The method ultimately selected will depend on a detailed financial analysis of each alternative.

## FARM CREDIT SYSTEM BOARDS OF DIRECTORS

Question. Mr. Thor, do you believe that the System gets adequate direction from its various boards of directors? How could it improve?

Answer. Historically, members of the board of directors of System institutions have been borrowers of the institution they direct. This creates obvious conflicts as board members are called upon to make decisions critical to the financial condition of the institution but related to matters that affect borrowers. This includes decisions on loan pricing, nonperforming loans, and borrower rights to name a few. However, these tough decisions must be made to correct the financial deterioration of the institution. In addition, it is important that the composition of the board of directors of any financial institution be varied. We would like to see at least two and preferably a minority of each System institution's board of directors be non-borrowers experienced in the financial services industry.

---

## QUESTIONS SUBMITTED BY SENATOR MCCLURE

### SPOKANE FARM CREDIT DISTRICT

Question. Mr. Thor, I appreciate your attendance and testimony. It has brought to mind several questions which relate specifically to the Spokane Farm Credit System Bank and I hope that you can address them here today or reply in writing later. Your statement clearly pointed out the benefits of receiving assistance from the Assistance Board, lower interest rates to borrowers being the major benefit. The most heard complaint in my district has been the high cost of debt. I have spoken to several System loan officers in Idaho who say that they have been told that they must be profit centers thus they have no alternative but to raise interest rates to the borrowers to cover their costs. This has resulted in the Spokane District having one of the highest interest rates in the country. Could you advise me as to the possibility of the Spokane District being eligible for assistance from the Assistance Board? Would this result in lower interest rates to the borrowers in the Spokane district? What must the Spokane district do to receive such assistance?

Answer. Section 6.4 of the Act provides that eligibility for certification to receive financial assistance is conditioned upon stock impairment, i.e. the book value, based on generally accepted accounting principles, of the applying institution's stock, participation certificates, or other similar equities must be below par value or face amount. The Farm Credit Bank of Spokane was not listed on the recent notification from the FCA informing the Assistance Board of System institutions whose stock was impaired.

## PRODUCTION CREDIT ASSOCIATIONS AFFILIATION CHANGES

Question. I have noticed that the Assistance Board gave preliminary, conditional approval to requests by three New Mexico Production Credit Associations to change their affiliations from the Wichita Farm Credit District to the Texas Farm Credit District. Please update me on EIPCA's efforts to move to the Sacramento District. What is the possibility of this move becoming a reality?

Answer. As you know, reassignment requests are subject to approval by several parties: (1) shareholders; (2) the board of directors of the adjoining district bank; (3) the FCA Board; and (4) the Assistance Board. The Western Farm Credit Bank, the adjoining district bank, has considered Eastern Idaho Production Credit Association's reassignment request and has imposed conditions on its approval. The Assistance Board is awaiting resolution of certain of these conditions before EIPCA's request is presented to our Board of Directors for a decision. However, in the interim, the Assistance Board has been in contact with the association, the Western FCB and the Spokane FCB and has requested and commenced review of pertinent financial and other information in connection with the EIPCA's reassignment request. To our knowledge, to date, neither the shareholders nor the FCA Board have taken action on this request.

Since this request is subject to approval by parties other than the Assistance Board, we are not in a position to predict whether the reassignment will occur.

## NATIONAL SPECIAL ASSET COUNCIL

Question. The second most asked question in my district is whether or not the Spokane District is complying with the loan restructuring requirements of the Agricultural Credit Act of 1987. In your statement you said that the National Special Asset Council monitors compliance with these requirements. Has the Spokane District been monitored by this council and if so what were the results? If not, when is a review scheduled? What is the procedure for individuals with complaints to register to testify or speak before the council?

Answer. By law, the National Special Asset Council only monitors compliance with the statutory loan restructuring requirements of certified Farm Credit System institutions. The Spokane FCB is not certified and not currently eligible to be certified. Farmer borrowers of both certified and noncertified institutions have a right of appeal of a loan restructuring denial with the institution's credit review committee. The FCA is charged with examining all System institutions for compliance with the loan restructuring provisions.

## SPECIAL COMMITTEE ON DISTRICT CONSOLIDATION

Question. The 1987 Act established the Special Committee on District Consolidation to develop a proposal to consolidate the System into no less than six districts. When will their report be ready to review? What will be tax implications of these types of mergers and will it have any effect on recommendations made by the board as to whether or not to recommend merging institutions?

Answer. The Special Committee, composed of representatives of each Farm Credit district board and the Assistance Board, is completing its report and will be submitting it to the Senate Committee on Agriculture, Nutrition and Forestry and the House Committee on Agriculture in the very near future. The Special Committee will ensure that you receive a copy of the report as soon as it is available.

# FARM CREDIT ADMINISTRATION

## QUESTIONS SUBMITTED BY SENATOR BURDICK

### FEDERAL AGRICULTURAL MORTGAGE CORPORATION

Question. The Senate report for 1989 clearly states that FCA should identify the full costs associated with regulating this new market, including space costs and overhead, and to assess the Federal Agricultural Mortgage Corporation for them. How much have you assessed the Corporation in 1989, what is your total estimate for 1989, and what do you estimate for 1990?

Answer. The FCA has not yet assessed the Corporation for FY 89. The statute provides that the FCA shall assess the FAMC for the cost to the FCA of any regulatory activities, including the cost of any examination, that the FCA determines to be necessary to provide general supervision of the safe and sound performance of FAMC's powers, functions, and duties. FCA will assess the FAMC on a cost-incurred basis rather than the formula basis used for Farm Credit Banks.

Question. Why haven't you complied with the Committee report on breaking down the cost associated with the Federal Agricultural Mortgage Corporation?

Answer. The FCA is developing its examination approach and objectives. Once developed, we will be better able to calculate costs for the various functions and components. The FAMC will be assessed for the FCA's regulatory expense once the FAMC's operations advance further. We continue to monitor the FAMC's start-up and initial operations and to finalize our examination plans and schedule, budget, and assessments accordingly.

---

## QUESTIONS SUBMITTED BY SENATOR COCHRAN

### THE AGRICULTURAL CREDIT ACT OF 1987

Question. The Agricultural Credit Act of 1987 was designed to restore the Farm Credit System's financial health. The Farm Credit Administration is responsible for regulating and examining the banks, associations, affiliated service organizations and other entities that make up the System. The activities that FCA oversees are an important component of U.S. agriculture. Without them, farmers would have difficulty obtaining funds needed for farming activity, including short, intermediate and long-term capital. In your opinion, has the Act been a success? Does the Act need any fine tuning by Congress?

Answer. The 1987 Act has been a success in that it accomplished several public policy objectives by giving the FCA and Farm Credit institutions the tools to return the System to viability. It established a mechanism for assistance to financially troubled Farm Credit institutions, set up a timeframe for the management and membership of the various Farm Credit institutions to consider several structural changes, and established a new set of borrower rights provisions.

The Act required the FCA to issue regulations establishing capital standards for these institutions that take into account risk factors. These standards are to be met using generally accepted accounting principles (GAAP). In addition, it required each Farm Credit institution to adopt capitalization bylaws which must be approved by a majority of the institution's stockholders.

The Act also established the Federal Agricultural Mortgage Corporation to encourage a secondary market for agricultural real estate loans, and the Farm Credit System Insurance Corporation to ensure the timely payment of principal and interest on notes, bonds, debentures, and other obligations of insured Farm Credit institutions.

The Agricultural Credit Technical Corrections Act (Pub.L. 100-399) passed by Congress last summer has made implementation of congressional intent, if not the letter of the law, easier. However, there are some areas that Congress may wish to readdress in the future.

The FCA Board has not adopted any policies recommending changes to the statute. In light of the statute's requirement that stockholders of Farm Credit institutions be given the opportunity to vote on a number of structural changes and options over an 18-month period, it appears that the question of congressional fine-tuning might be more appropriate after these events have taken place.

## FCA BOARD

Question. The FCA cannot make Board decisions without a quorum. The FCA Board has only one member, which does not constitute a quorum. How much of a problem is this and when can we expect to see nominees brought forward by the administration?

Answer. As you note, there are currently two vacancies on the FCA Board. In January, the Board delegated those authorities that can be delegated under the Act to the Acting Chairman and Chief Executive Officer to ensure that the routine day-to-day business of the agency could continue under existing Board policies. As a result, the FCA is able to conduct its day-to-day activities and operations, most importantly, to continue to examine Farm Credit institutions for their compliance with applicable statute and regulation. Actions that cannot be delegated, such as promulgating regulations and adopting or modifying FCA Board policies, must await the appointment of an additional Board member.

The FCA Board members are nominated by the President, by and with the advice and consent of the United States Senate. As an existing FCA Board member, I have no involvement in either the nomination or confirmation process.

## FCA LAWSUITS

Question. In your prepared testimony, you indicate there are approximately 30 lawsuits pending that involve the Farm Credit Administration and possibly more will result from regulations implementing new authorities. What is the nature of these lawsuits and how will they impact your overall budget?

Answer. The following is a list of lawsuits involving the FCA, either directly as party to the suit, or indirectly because demands are being placed on agency staff and resources to meet nonparty discovery and document requests. This list does not include any litigation related to FCA enforcement actions. It is difficult to project the amount of staff time and other agency resources that must be expended in relation to these lawsuits.

As for regulations, although the FCA has issued most of the major regulations required by the 1987 Act--borrower rights, capitalization and related bylaws regulations, secondary market, and System structure--and repealed certain prior approvals no longer required as a result of the Act, there are still other regulations that must be issued, as well as an ongoing review and coordination of all existing FCA regulations.

## Lawsuits Involving the FCA

Amarillo PCA v. FCA, No. CA-5-86-098 (USDC, ND Lubbock, TX) Approval of APCA's liquidation and reorganization as an independent agricultural credit corporation

Leckband, et al. v. Naylor, et al., CV 3-88-167 (USDC, MN filed 3/18/88.) Borrower Rights--Right of First Refusal

Chattanooga PCA, et al. v. FCA, et al., No. 88-0584 (USDC, DC filed 3/4/88) One-time stock purchase and civil money penalties

Colorado Springs PCA, et al. v. FCA, et al., No. 88-0574 (USDC, DC filed 3/3/88) One-time stock purchase and civil money penalties

Sikeston PCA, et al. v. FCA, et al., No. 88-0583 (USDC, DC filed 3/4/88) One-time stock purchase and civil money penalties

Caprock-Plains FLBA, et al. v. FCA, NO. CA-5-86-202 (USDC, ND Lubbock, TX) Capital Corp. assessment regulations

Central Kentucky PCA, et al. v. U.S., et al., No. 86-2056, USDC, D.C. (Appeal No. 86-5623, D.C. Cir.) Capital Corp. statute, assessment regulations, and Capital Directive No. 1

Commodity News Services, Inc. v. FCA, No. 88-3146 (USDC D.C.) FOIA request for applicants to position of receiver for Jackson

Covington and Burling v. FCA, No. CA 87-2017 (USDC, DC) Freedom of Information Act

FLB of St. Louis v. Kruse, No. 86-C-20302, USDC WD Ill., (No. 85-CH-28, Cir. Ct., Carroll County, IL) Foreclosure related

High Plains Agricultural Credit Corp., et al. v. FICB of Omaha, et al., No. C87-0425 (USDC WY) Distribution of legal reserves and earned participation certificates to OFI

Jackson, et al. v. FCA, et al., No. CV-E-88-636 (USDC, E.D. CA) Alleged failure of bank to provide borrower rights

H. L. Riches & Sons, Inc., et al. v. George Manning, et al., Adversary No. 88-0502 (U.S. Bankruptcy Court-Oregon) Alleged violation of Borrower Rights Statutes

Wyche v. Duncan, et al., Civ. No. CIV 88 2201 P (D.C. Okla., filed 12/14/88) Borrower rights litigation

Morgan v. FCA, et al. Civ. No. 89 210 W (D.C. WD. Okla., filed 2/3/89) Borrower rights litigation

FLB of St. Louis v. Boehler, 85-CH-11 and 85-CH-12 (Circuit Ct., Fourth Judicial Circuit, Hillsboro, Montgomery County, Ill) Non-Party Discovery Request

Jones v. FCA, No. 85-083-B (USDC Nebraska) Privacy Act and FOIA violations

Bogetti et al. v. Sierra-Bay PCA et al., No. 19567 (Sup. Ct. Cal. for San Joaquin County) Non-Party Discovery Request

FCB of Omaha v. Barry, (USDC, S. D. of Iowa, Western Div.) Non-party Document Request

Interstate PCA v. Fireman's Fund, No. 87-1417-FR (USDC for District of Oregon) Non-Party Discovery Request

Lassen PCA v. Fireman's Fund, No. 17733 (Superior Court of California) Non-Party Discovery Dispute

Little, et al. v. First South PCA, et al., No. 137, 279 (Chancery Ct of Hinds Co., Miss.) Dispute over severance pay for Jackson Farm Credit District employees

PCA of Midlands v. Hanlon, et al., No. 87-249-A (USDC SD Iowa, Central Div.) Non-Party Discovery Dispute

PCA of Midlands v. Wachtel, et al., No. 17305 (Iowa D. Ct. for O'Brien County) Non-Party Document Dispute

Schroder v. Volcker, No. 85-2560 (USDC Colorado) Foreclosure related

South Atlantic PCA v. Fireman's Fund, CA No. 87-25-THOM (USDC for Middle Dist. of Georgia, Thomasville Div.) Non-Party Discovery Dispute

Schrater v. FICB of Omaha, CA No. C88-1031-B (USDC for the District of Wyoming) Non-Party Discovery Request

Steinmeir v. Central PCA, et al., No. CV-187-856-CC (Circuit Ct. of Platte Ct., Missouri Div. I) Non-Party Discovery Dispute

Slotten v. FCSAB (CA No. 89-0121 (D.D.C. filed 1/19/89) Non-Party Discovery Request

Elwanda Campbell, Alleged age and sex discrimination (Administrative processing at FCA)

James Dotson v. Wilkinson, et al., Alleged age discrimination (FCA employees named in individual capacities) (Federal District Court)

Daniel J. Thompson v. FCA, Termination of Employment (MSPB)

## AVAILABILITY OF CAPITAL

Question. Will the Farm Credit System institutions have adequate capital available?

Answer. Building or restoring an adequate capital base will be a major objective for a number of Farm Credit institutions over the next 5 years. Their ability to do so depends on a number of factors, including the demand for credit from agricultural producers, competition from other lenders, and the ability of Farm Credit institutions to recover from past financial problems. These include a relatively high volume of nonaccruing assets and high-cost debt obligations, and operating expenses. Another factor will be repayment of the assistance provided under the Agricultural Credit Act of 1987.

In accordance with the 1987 Act, the FCA has issued regulations defining minimum permanent capital adequacy standards for Farm Credit institutions to be achieved by December 31, 1992. The regulations, which became effective February 1, 1989, set a minimum capital standard of 7 percent of risk-adjusted assets to be achieved by 1993. Until 1993, the regulation requires that interim standards be met yearly, to assure progress toward these minimum permanent capital adequacy levels. The regulation provides for regulatory forbearance for institutions that do not meet their interim standards but are making reasonable progress, as defined by the regulation. The FCA regulation recognizes that additional capital beyond 7 percent may be required to address the level of risk in an individual institution.

Question. How will that compare to that of the commercial institutions?

Answer. When differences in the treatment of the allowance for losses is taken into account, the 7-percent standard is roughly comparable to the 8-percent standard being adopted for U.S. financial depository institutions by the other Federal regulators.

The basic sources of increased at-risk capital include borrower stock, sale of stock to others, and retained earnings. Thus, it is critical that the institutions restore borrower confidence and stimulate investor interest to encourage stock investment. They must also price their loans adequately, keep loans in the accruing status, and control costs in order to build capital from earnings, while at the same time keeping interest rates competitive with other lenders.

There also will be opportunities to sell portions of loans into the secondary market, which will decrease an institution's capital requirements while providing sources of fee income.

## RURAL DEVELOPMENT

Question. What is your view of the Farm Credit System providing financing for the rural development activities?

Answer. The FCA Board has not adopted a policy either advocating or opposing the financing of rural development activities by Farm Credit institutions. There are certain risks associated with any kind of financial activity. As a regulatory agency, the FCA's primary concern would be that Congress adequately address these risks if it determines a role for Farm Credit institutions in rural development. This is a particular concern if the lending authorities would contemplate Farm Credit institutions providing venture capital or start-up financing for various businesses in rural settings. The risk factors and business decisions associated with this kind of lending activity are very different from those involved in infrastructure loans to rural communities.

### BUILDING FUND

Question. Please describe the FCS Building Association fund.

Answer. The FCS Building Association "fund" is actually an annual budget of revenues and expenditures to operate the Farm Credit Building and to lease and furnish 11 field office sites for the FCA.

In 1989, estimated revenues of $4,200,000 will be derived from renting to other tenants, telecommunication, and interest income and assessments from member Farm Credit banks that own the Association. Expenditures of $3,990,000 operate the Farm Credit Building, pay insurance and taxes, and lease field offices.

The annual budget must be approved and authorized by the FCA Board. Financial operations are audited semiannually by an independent auditor.

Question. I notice you have an item from that fund for purposes of Community/Business Representation in the amount of $5,000. Please explain this amount of money, particularly in light of Committee directives limiting such expenditures.

Answer. Within the budget, an amount not to exceed $5,000 is set aside each year so the FCS Building Association may represent the Farm Credit System interests. These interests include insurance rates, real estate and property taxes, utility costs, labor contracts, and security and enhancement of Farm Credit System assets.

Activities include membership in the Better Business Bureau, Chamber of Commerce and two telecommunication associations and donations to specific local charities such as the Salvation Army, Food for the Homeless, and Fire and Police Programs.

## QUESTIONS SUBMITTED BY SENATOR MCCLURE

### AGRICULTURAL CREDIT ASSOCIATIONS

Question. In your statement you mentioned that it is now possible for Federal Land Bank Associations and Production Credit Associations to merge to form Agricultural Credit Associations, with the resulting association being able to make direct short-, intermediate- and long term loans. You are no doubt familiar with the situation which currently exists in Idaho, in which the Eastern Idaho PCA voted not to merge into the Interstate PCA, which represents all the rest of the 12th District. The Agricultural Credit Act of 1987 specifically states that no association which voted against a district wide merger could have its territory invaded by the merged association. It appears to me that by the creation of the Agricultural Credit Associations this provision of the Act is effectively circumvented. Have any District Banks or Associations applied to become one of these ACA's?

Answer. The Agricultural Credit Act of 1987 required that not later than 6 months after the date of the merger of the Federal land bank with the Federal intermediate credit bank in each district, the board of directors of each Federal land bank association (FLBA) and each production credit association (PCA) that share substantially the same geographic territory with each other shall submit to the voting stockholders of each such association for their approval a plan for the merger of the associations. The statute also required that this merger plan be approved by the district Farm Credit Bank and the FCA. The statute does not provide for Farm Credit Banks to become ACAs.

There were 50 such situations of an FLBA and a PCA being required to conduct stockholder voting on becoming an ACA. As of April 1, 1989, stockholders had voted in 47 of these, resulting in 39 ACAs. In six cases, the FLBA and PCA stockholders voted for their institutions not to become ACAs. In two cases, the stockholders voted to become ACAs if certain conditions are met. Stockholder votes have not yet occurred in the three remaining situations, one of these being the Interstate PCA and the FLBA serving substantially the same territory.

Question. Has the Spokane District Bank or the Interstate PCA of the 12th District applied for ACA status?

Answer. Stockholders of the Interstate PCA and the FLBA have not yet voted, pending the associations' correction of deficiencies in their disclosure documents. Farm Credit Banks are not eligible to become ACAs.

Question. How will the conflict between associations be dealt with if the creation of ACA's becomes widespread causing overlapping of territories?

Answer. The Act provides that when there is a districtwide merger vote among associations the merged association's charter cannot include the territory of any association that voted against the merger. The Act was subsequently amended by section 411 to require each PCA and FLBA that share substantially the same territory to vote on a merger to form a section 411 ACA. Unless the territories of the associations are identical, the formation of an ACA will result in its serving parts or all of the territory of existing PCAs or FLBAs. For this reason, the FCA Board has ensured that each association affected by a section 411 ACA merger will have an opportunity, through stockholder votes, to also become an ACA. This will permit these associations to compete on an equitable basis with the ACA by having the the same lending authorities. Because the election of these associations to become ACAs may result in their providing competing lending services in territories served by other neighboring associations, the FCA Board has also extended the option to convert to ACA status to any of those affected associations. While this competition may require some adjustments, we believe it will provide some definite benefits to the institutions and the farmers and ranchers they serve.

## STATUS OF CORPORATIONS

Question. Could you please update me on the current status of the Federal Agricultural Mortgage Corporation and the Farm Credit System Insurance Corporation?

Answer. The FAMC completed its initial public offering of stock in December 1988 to capitalize the Corporation. Its permanent board members have been elected. FAMC is developing underwriting and appraisal standards. The annual and call reports have been filed.

The Farm Credit Insurance Corporation was established on January 6, 1988, as was the Farm Credit Insurance Fund. On January 5, 1989, each Farm Credit Bank became insured and subject to the new provisions of the law governing the Corporation and its powers. The statute provides that Farm Credit Banks are to make the initial premium payment in January 1990 and sets the premium rate for accrual and nonaccrual loans.

Question. When will the secondary market for agricultural loans be functional?

Answer. It is our understanding that the FAMC board intends to be in a position to issue its first guarantee some time this fall. In order to do that, the FAMC will have to issue standards on underwriting, appraisal, and legal documentation required for agricultural loans to be pooled for guarantee by FAMC as well as eligibility and certification standards for poolers.

Question. Will it result in lower interest rates to farmers?

Answer. Lower interest rates are among the anticipated benefits of the secondary market. Of course, whether or not this indeed occurs depends on several factors, including investor acceptance of this new financial intermediary and its debt instruments.

## BORROWER RIGHTS

Question. Has the FCA reviewed the Spokane District for compliance with the borrower rights and loan restructuring provisions of the Agricultural Credit Act of 1987? If so, have they complied with the law? if not, when will this review take place?

Answer. The FCA annually examines each Farm Credit institution with direct lending authority. Compliance with borrower rights provisions is routinely included in the scope of the examination. When the FCA, through its examination process or through other means, discovers violations of law and/or regulation, the agency has the authority to institute appropriate formal enforcement actions to promote the prompt correction of the situation by the directors and management of the institution in question. Although our examination schedule and examination findings are not public information or documents, our examination activity in the Spokane District since implementation of the 1987 Act has disclosed various violations of the regulations.

Question. What provisions for input by local farmers and ranchers will be made?

Answer. As a regulatory agency, the FCA examines the books and operations of Farm Credit institutions. Any written complaints or allegations of violations of statute or regulation that we receive from borrowers are reviewed for examination purposes. As is the case with other financial regulatory agencies, FCA's examination responsibilities or authorities do not normally involve direct interaction with borrowers. FCA personnel do not involve themselves in management and operating decisions of Farm Credit institutions.

## QUESTIONS SUBMITTED BY SENATOR GRASSLEY

### CREDIT RELATED SERVICES

Questions. As you are no doubt aware, there is discussion amongst several of the districts of expansion into nontraditional lines of financial services. The Omaha District has already been involved in loans for new cars. I understand the program was very selective and specific. Even more interesting, however, is the intention of the Omaha District, and perhaps of other FCS districts, to offer brokerage services thru a 3rd party. I'm familiar with all the arguments about diversification and "bonding" with the FCS borrower/customer. Nevertheless, there are many people, some of them in congress, who question how the FCS, especially those districts getting assistance, could even be thinking of car loans or securities brokerage.

Mr. Duncan, will the FCA allow 3rd party arrangements with brokerage firms to be housed in an FCS institution?

Answer. It is our understanding that some Farm Credit institutions are exploring or negotiating on various financially related services proposals that would involve the Farm Credit institutions acting as "agents" for a third-party transaction. It is FCA's position that such relationships and the associated risks and such proposed services must first be subject to FCA's review for legal and operational consideration before the FCA makes a determination on the proposed service.

The FCA has scheduled a public hearing on June 14 to address this and several other related issues. The purpose of the hearing is to solicit views of borrowers, Farm Credit institutions, other providers of financially related services, and any other interested parties on:

1. the need for and the availability of certain financially related services that are appropriate to onfarm and aquatic operations;
2. the financial benefits and risks of offering such services through Farm Credit institutions, including how any risks may be addressed;
3. the ability of Farm Credit institutions to provide such services, including whether there are any apparent or actual conflicts in the offering of such services;
4. the potential impact of such services on credit provided by the Farm Credit institutions;
5. the existing sources of such services by providers which are not Farm Credit institutions;
6. past and present experience with financially related services offered by Farm Credit institutions; and
7. related issues.

### FCA STANDARDS FOR APPROVAL

Question. What is the standard, or guiding principle, by which you've made, or will make, this determination and future requests for nontraditional services?

Answer. The authority to offer financially related services is found in sections 1.12, 2.5, 2.12(15), and 3.7 of the Farm Credit Act of 1971, as amended. The statute provides that the offering of financially related services by banks and associations must be done under regulations of the FCA. FCA Regulation 12 CFR 618.8000 provides that Farm Credit banks and associations are authorized to provide such financially related services under policies adopted by bank boards. The FCA must first review and approve these policies before the programs can be offered by the institutions.

Before approving a financially related service, the FCA may consider, among other things, the legality of the proposed service, whether the proposed service meets borrowers' needs, the bank's and/or association's ability to offer such programs that are financially feasible, and the institution's staff resources that would be available to administer the program without jeopardizing the institution's primary function of providing credit or the institution's capital base.

Question. How many requests and inquiries has FCA received from interested FCS management?

Answer. The FCA currently has one formal financially related services request that involves the Farm Credit institutions acting as an "agent" for a third-party transaction. The request is for a specific service in a limited geographic area. It does not include brokerage services.

Question. Do you believe there is a need or a demand for these additional services?

Answer. It is FCA's position that a determination of the appropriateness of pending and proposed programs should and will be addressed by the FCA only after comment on this issue is solicited at the scheduled public hearing.

## LITIGATION

Question. In your testimony you state that legal fees are an increasing drain on the FCA budget; specifically that the agency is now involved in 30 lawsuits. How many of these were initiated by FCA?

Answer. None of these lawsuits were initiated by the FCA.

Question. What is the typical case - how is it characterized? Do the cases involve interpretation of statute?

Answer. As the list of lawsuits that we provided in response to Senator Cochran's request indicates, a typical case involves interpretation of the Farm Credit Act of 1971, as amended, and/or regulations implementing the statute, and non-party discovery requests.

Question. Are they contested by other lending systems? Are they contested by borrowers?

Answer. We are not aware of other banking entities or systems contesting these cases. Some of the lawsuits were initiated by borrowers of Farm Credit institutions.

Question. To what extent does FCA monitor the litigation in which FCS institutions are involved? Is this a concern that the agency explores? How do you or would you determine if an institution does have excessive legal fees and/or is too eager to litigate?

Answer. Farm Credit institutions are private credit cooperatives owned by their stockholders. The FCA does not monitor the litigation involving these institutions for the purpose of regulating their actions in the courts. The FCA examines Farm Credit institutions for their compliance with Federal statute and regulation, their financial condition, and overall soundness, but the FCA has no general basis to cite these institutions or take enforcement actions against them on the grounds that they are too litigious.

As a separate matter, the FCA's budget is affected by litigation involving Farm Credit institutions because FCA resources are often expended in non-party discovery, in requests for documents, and because the FCA may be requested by the judge to testify.

Question. My concern about litigation is two-fold:
First, that FCS institutions expend precious resources on litigation and this expenditure is out of proportion with the dollars recovered through litigation. Second, that borrowers are forced into litigation excessively, and are usually at a distinctive disadvantage due to FCS "unlimited" resources in terms of expertise and funding.

Answer. I share your concern and desire that borrowers and lenders alike do not unnecessarily expend resources on litigation.

## BORROWER RIGHTS

Question. Mr. Duncan, again referring to your written testimony, you state (on p. 6) that FCS must also monitor borrowers' rights and protect them from abusive tactics. Would you please elaborate on what you look for, how you make the determination, what you do when abuse is identified.

Answer. The agency has a statutory obligation to examine Farm Credit institutions for their compliance with the Farm Credit Act of 1971, as amended, and FCA regulations, including the borrower rights provisions. Therefore, in addition to examining the institutions for sound credit administration, scope of lending, adequate loan documentation and disclosure, and other matters, our examiners also review the restructuring policies and procedures of each institution and a representative number of loans to determine if these were followed. Written complaints received from borrowers alleging violation of the statute or regulation are considered in the examination process.

Question. What have you discovered in your monitoring? In other words, how are borrowers being treated?

Answer. FCA examinations of Farm Credit institutions have disclosed some violations of the regulations. However, the agency's examinations have generally disclosed that the institutions are complying with borrower rights. Deficiencies, particularly incidences of continued pattern or practice, may be subject to correction through appropriate FCA enforcement and supervisory actions.

## FmHA DEMONSTRATION PROJECT

Question. This is a more technical matter involving those properties eligible for sale through the FmHA Demonstration Project. Though you only mentioned the Louisville participation in the demonstration project, it's now available in Omaha. Technically, the land that is eligible is only that of certified FCS institutions. In some districts, only the FLB side was certified. Now, the banks for Omaha FLB and PCA are merged into one FCBO. But the associations remain separate. I've been told that the acquired properties also remain separate and distinct.

I'd like a formal determination from FCA on this matter. So, for example, can a person use the demo project to purchase land acquired by PCA in the Omaha District, because PCA was not certified, even though it shares a bank, FCBO, with the certified institution, FLB?

Answer. The FmHA Demonstration Project applies to Farm Credit institutions certified under section 6.4 of the Farm Credit Act of 1971, as amended. The Farm Credit Bank of Omaha was certified by the Farm Credit System Assistance Board on August 12, 1988, so it may participate in the demonstration project and its entire inventory of acquired property is eligible for sale through the project. The FCA must defer to the Assistance Board on the certification process and its consideration of the Omaha bank's application.

PCAs and banks are separate legal entities, so certification of the district bank does not automatically apply to an association. If a PCA is certified under section 6.4 of the Act, provisions of the demonstration project would apply to it in the event that the PCA has acquired properties meeting the eligibility requirements.

## FOOD AND DRUG ADMINISTRATION

**STATEMENT OF FRANK E. YOUNG, COMMISSIONER**

**ACCOMPANIED BY:**

**JAMES S. BENSON, ACTING DEPUTY COMMISSIONER**

**THOMAS SCARLETT, CHIEF COUNSEL**

**SHARON SMITH HOLSTON, ASSOCIATE COMMISSIONER FOR MANAGEMENT AND OPERATIONS**

**FRANK P. CLAUNTS, DIRECTOR, DIVISION OF FINANCIAL MANAGEMENT**

### INTRODUCTION OF WITNESS

Senator BURDICK. Our final panel today is the Food and Drug Administration, Frank E. Young, Commissioner.

Welcome to the committee, Dr. Young. I note that your budget request is for $469,733,000, a significant decrease from this year's, largely because of a proposed request $100,000,000 in user fees.

We will get into that issue a little later. For now, I will ask you to proceed with your statement before taking questions from the subcommittee.

You may proceed.

### STATEMENT OF DR. YOUNG

Dr. YOUNG. Thank you very much, Mr. Chairman. I do appreciate the opportunity to be with you. And I thank you, sir, for allowing me to present last, because of the AIDS hearing that I was at earlier this morning.

Because of respect for your time, I will just give a very brief overview, and concentrate on one particular topic that I think is very important to the well-being of the Nation, and that is biotechnology.

I would like you to know that this year the FDA has faced overwhelming challenges. I believe the Agency has had a high intensity of work and has done a great job with enormous workloads.

I have been pleased to see the way the Agency has striven and risen, again and again, to not only the normal workload, but the crises that have faced us.

### BIOTECHNOLOGY

The single focus that I would like to make in my oral remarks today deals with biotechnology. I believe that this represents, in the agricultural sector that we deal with, that is, food safety, in the veterinary medicine program that we deal with, that is, the focus on veterinary drugs and biotechnology products, in the fields of human biologics and human drugs, and in the field of devices, an enormous frontier.

I have, in my past, had the great fortune of being involved in biotechnology when it first became a science in the Nation, and I have seen many products move through the pipeline. For example, the FDA, alone, has approved over 300 products at this time and has close to 600 in the pipeline.

And what I would like to paint for you today is the programs that are very significant, and the opportunities for the American people.

First, in regards to biologics, human biologics, we have seen an explosion of new chemicals, the actual chemicals that we retain in our body to signal our normal processes. One example of this is human growth hormone. Another one is alpha interferon that occurs after various white blood cells are stimulated.

Right now there is a lot of speculation on the clinical role of a factor called EPO, or erythropoetin, a factor which stimulates red blood cells; others that stimulate nerve growth. This is a major explosion of technology that was really invented in the United States.

I was at the Asilimar meeting, which was the dominant meeting in 1974 to look at this new technology which resulted in the 1976 guidelines, and the United States was the only player in the field. Now, with the exception of pharmaceuticals, where we retain the leadership, there is no clear leader in the field.

One of the most important aspects as we invest billions in this particular industry is to look and see how this new technology comes to the American people.

On the first chart in the Center for Biologics Evaluation and Research, you can see from 1980 to this time, shows a relatively constant level of workload in the classical vaccines that we have had coming forward in biological products.

You can see the upswing in biotechnology starting from essentially nothing in 1980 until this time.

Dr. Kathy Zoon, who is the leader of our new program on cytokine biology, has a workload increase of 400 percent in the last 2 years in this particular field. An enormous growth.

You can see, if I could have the next chart, please, that we have requested, as part of the administration's proposal, a major increment in the biotechnology resources to readjust some of the imbalance.

You can see that in the non-AIDS IND's, that since 1973, we have had an increase of 318 percent in total workload with a decrement of 1 percent in staff.

Now, as we try to bring new technologies to the American people, it was this very factor that led the Administration to propose the increase in biotechnology that you see in the budget.

If I could have the next chart, please.

### FOOD BIOTECHNOLOGY

This has not merely a biologics aspect, but we looked at what might be occurring in the food industry as well. It might interest you to know, as this is an agricultural subcommittee, that though the products will go into the field under the auspices and investigations permits of both EPA and Agriculture, they will come to the

U.S. consumer after the Food and Drug Administration has judged that they are safe for human consumption.

We did a delphic study in which we looked at the products predicted by 106 experts, and you can see the predicted increase from 1987 to 1992. In this, the types of products might include: different food additives that would be cloned; there would be diagnostic tests, such as for salmonella and listeria, that might be able to be picked up on line; there will be new foods that will contain the pesticide genes themselves.

Right now there are about 12,000 tomato plants in food trials that will eventually bring crops to the market that have a pesticide gene that kills lidoptera, one of the pests that afflicts tomato plants.

FDA will have to determine whether these types of products are safe for consumption or not safe for consumption.

### VETERINARY BIOTECHNOLOGY

In addition to the food products, if I could have the next chart, please, we will have a large number of products that are moving out in veterinary practices. We have one of these at this very time, the bovine somatotropin hormone that is being explored. It is in the final phases of development and evaluation within the Food and Drug Administration.

And it is thought by some that we might even be able to change fermentation technology, so that instead of producing drugs in large iron and steel fermenters, they can be produced in animals, like the cow.

It has been shown in experimental work that the gene for TPA, tissue plasminogen activator, can be cloned into a mouse and secreted in mouse milk. Is it possible that some of these genes can be secreted in the milk of cows, and then isolate it from there? A lot of work is going on in these types of veterinary products.

### DEVICE BIOTECHNOLOGY

In the field of devices, there are a number of diagnostic tests: DNA probes, antibodies, monoclonal antibodies. I have with me on my immediate right, Mr. James Benson, who, before he became my deputy, was in the Center for Devices and Radiological Health.

And under Mr. Villforth's leadership, we have seen a number of biotech products come forward there.

So biotechnology is going to encompass premarket approval through surveillance in the field, and also our good manufacturing practice regulations and good laboratory practice regulations will need to be modified.

About 50 percent of the biotech firms are small businesses. They are not as aware of the regulatory scheme as large, established manufacturers. So we are bringing forth a three-part program that you will see in more detail in action plan phase 3.

One comes forward with the idea of having research reviewers that are state-of-the-art, that can give good advice. We have learned through the Bush proposal that came in response to drugs for the desperately ill, that if we get the right advice the first time we can substantially reduce the review time of drugs for the desperately ill.

And with the biotech drugs we will try to deal with that.

With your permission, Mr. Chairman, I will submit for the record an interesting study in which we looked at the drugs for the desperately ill from the time of the first pivotal study to approval, before it took about 7.5 years; we have now decreased this down to 4.2 years.

And many of these drugs will be from biotech, and we need to give good advice. So you will see that type of research-reviewer support there.

You will see the concept coming forward of giving good guidance. That means a lot of contemporary people providing the right guidance in biotechnology.

### COOPERATIVE FACILITIES

We will also try to deal with conjoint facilities. We have got a conjoint facility in food processing in the great State of Illinois at the Illinois Institute of Technology, in which we are trying to bring industry, academe, and government together.

Similar proposals are being explored with us in Maryland, in Arkansas, and in other parts of the Nation, to try to bring together and catalyze this technology. Because, if we let this technology fall, as many other technologies have, on the bones of poor regulatory practice, we will see, regretfully, the United States again lose out in the development of technology.

I would also like to submit for the record an article by Dr. Mansfield in the September 30 "Science," where he outlined how we, compared to Japan, have failed to bring innovation to the American people.

[The information follows:]

# Industrial Innovation in Japan and the United States

EDWIN MANSFIELD

**Japanese firms tend to be quicker and more economical than U.S. firms at developing and introducing new products and processes, but this advantage seems to exist only among innovations based on external technology, rather than internal technology. Whereas U.S. firms put more emphasis on marketing start-up, they put much less emphasis on tooling, equipment, and manufacturing facilities than do Japanese firms. Applied R&D in Japan, which focuses more on processes than in the United States, seems to have yielded a handsome return; but there is no evidence that the rate of return from basic research has been relatively high in Japan. In robotics, the Japanese edge seems to increase as one moves from R&D toward the market.**

AMERICAN TECHNOLOGICAL LEADERSHIP IS BEING SEVERELY challenged in many high-technology industries by the Japanese (*1*). Yet very little systematic investigation has been carried out to determine how much of an advantage, if any, Japan has over the United States in developing and commercially introducing the new products and processes that are central to success in these industries. Intensive empirical studies have not been conducted to compare the extent, composition, and effectiveness of the research and development (R&D) activities of Japanese firms with those of comparable U.S. firms. We do not have an adequate understanding of the differences between Japan and the United States in the rates of diffusion of many new technologies (*2*).

In this article, I summarize some of the principal results of a 2-year study, based largely on data obtained from carefully selected samples of several hundred Japanese and U.S. firms, which shed new light on these important topics. Differences between the two countries in the quickness and cost of developing and introducing new products and processes are evaluated, and the size, composition, and effects of industrial R&D expenditures in the two countries are compared. Also, the introduction and diffusion in both countries of a particular new technology, the industrial robot, are analyzed.

**Table 1.** Mean ratio of U.S. to Japanese innovation times and of U.S. to Japanese innovation costs, from data provided by 50 Japanese and 75 U.S. firms for 1985 (*5*).

| Industry | Mean ratio of innovation times | | Mean ratio of innovation costs | |
|---|---|---|---|---|
| | U.S estimates | Japanese estimates | U.S. estimates | Japanese estimates |
| Chemicals | 1.04 | 0.96 | 1.02 | 1.14 |
| Rubber | 1.16 | 1.10 | 1.16 | 1.22 |
| Machinery | 1.17 | 1.23 | 1.21 | 1.28 |
| Metals | 0.99 | 1.18 | 0.95 | 1.10 |
| Electrical | 1.03 | 1.42 | 1.04 | 1.32 |
| Instruments | 1.00 | 1.38 | 1.23 | 1.40 |
| All industries | 1.06 | 1.18 | 1.10 | 1.23 |

## Time and Cost Differentials

In the chemical, rubber, machinery, instruments, metals, and electrical equipment industries (*3*), firms from both countries tend to agree that the Japanese develop and commercially introduce new products and processes more quickly than the Americans, although their advantage in this respect is not as great as is sometimes claimed. This finding is based on detailed data obtained from a random sample of 50 Japanese and 75 U.S. firms. Averaged over all six industries, the time differential in 1985 was about 18%, according to the Japanese firms, or 6%, according to the U.S. firms (Table 1). However, the picture varies from industry to industry. In some industries, like machinery, both the Japanese and U.S. firms indicate that there was a substantial differential. In other industries, like instruments, the Japanese firms indicate that there was a substantial differential, whereas the U.S. firms do not. In still other industries, notably chemicals, both the Japanese and U.S. firms indicate that there was no large differential. These data pertain to the length of time elapsing from the beginning of applied research (if there was any) by the innovator on a new product or process to the date of the new product's or process's first commercial introduction (*4*).

On the average, the Japanese also develop and commercially introduce new products and processes more cheaply than the Americans. Averaged over all six industries, the resource cost differential in 1985 was 23%, according to the Japanese firms, or 10%, according to the U.S. firms. Here too, the situation varies from industry to industry. For example, in machinery and instruments, based on both the Japanese and U.S. estimates, the cost differential seemed substantial; in chemicals, on the other hand, the U.S. firms do not indicate that any substantial differential existed. The cost figures used here include all costs to the innovator of developing and introducing the innovation. Specifically, they include the costs (before the innovation's first commercial introduction) of applied research, preparation of project requirements and basic specifications, prototype or pilot plant, tooling and manufacturing equipment and facilities, manufacturing start-up, and market-

---

The author is director of the Center for Economics and Technology and professor of Economics at the University of Pennsylvania, Philadelphia, PA 19104. This article is adapted from his talk at the 25th anniversary of the School of Management at Rensselaer Polytechnic Institute, Troy, NY, 27 February 1988, and from his testimony before the Joint Economic Committee of Congress, Washington, DC, 2 December 1987.

ing start-up. Because the Japanese cost figures were converted to dollars on the basis of purchasing power parities for resources used in the innovation process, they indicate approximately how much the resources used in Japan would have cost in the United States.

To understand the factors responsible for these cost and time differentials, one must recognize that some innovations are based largely on external technology (that is, technology developed outside the innovating firm), whereas others are based largely on internal technology (that is, technology developed within the innovating firm). To see whether these cost and time differentials depend on whether innovations are based on internal or external technology, I picked a random sample of 60 major Japanese and U.S. firms in the chemical industry (defined broadly to include pharmaceuticals and petroleum), the machinery industry (including computers), and the electrical equipment and instruments industries. The sample is composed of 30 matched pairs; each pair consists of a U.S. and a Japanese firm of roughly comparable size in the same industry. Every firm indicated how much time and money it devoted, on the average, to the development and commercialization of each of the new products it introduced from 1975 to 1985, depending on whether the product was based on external or internal technology. According to expert opinion, the new products introduced by each pair of firms were reasonably comparable.

Like the estimates obtained from the 125-firm sample described above, the results indicate that the Japanese tend to have significant cost and time advantages over U.S. firms. However, these advantages seem to be confined to innovations based on external technology (where the cost and time differentials are greater than those indicated above). Among innovations based on internal technology, there seems to be no significant difference in average cost or time between Japan and the United States (*5*).

## Innovations Based on External Technology

As a first step toward understanding why the Japanese have cost and time advantages over U.S. firms with respect to innovations based on external technology, it is important to recognize that, according to the above data, U.S. firms take almost as long, and spend almost as much money, to carry out an innovation based on external technology as one based on internal technology. In the development part of the innovation process (beginning at the start of R&D and ending when the product is developed), a U.S. innovation based on external technology takes less time and money than one based on internal technology; but in the commercialization part (beginning when the product is developed and ending when it is first introduced commercially), the time and cost are at least as great as one based on internal technology.

In Japan, on the other hand, firms take about 25% less time, and spend about 50% less money, to carry out an innovation based on external technology than one based on internal technology. Moreover, this is true in all industries included in my study. The contrast between Japanese and U.S. firms in the commercialization part of the innovation process is particularly striking. Whereas in the United States the commercialization of an innovation based on external technology takes more time and about as much money as the commercialization of one based on internal technology, in Japan it takes about 10% less time and over 50% less money than the commercialization of an internal technology–based innovation.

Many innovations based on external technology are new products that imitate others in important respects. The relatively higher commercialization cost for innovations based on external technology in the United States than in Japan seems to have been due in part to the fact that the Japanese, in carrying out such innovations, have been more likely than the Americans to make significant technical adaptations of the imitated product and to reduce its production costs substantially. The Americans have been more inclined than the Japanese to invest heavily in marketing start-up costs in an effort to position such innovations optimally in the market, the emphasis being more on marketing strategies than on technical performance and production cost. On balance, despite the Japanese emphasis on tooling, equipment, and facilities, this seems to have resulted in relatively high commercialization costs for such innovations in the United States.

## Resource Allocation in the Innovation Process

Japanese firms, in carrying out an innovation, allocate their resources quite differently than do U.S. firms. Table 2 shows the proportion of the total cost of developing and introducing a new product (introduced in 1985) that was incurred in each of the following stages of the innovation process: applied research, preparation of project requirements and basic specifications, prototype or pilot plant, tooling and manufacturing equipment and facilities, manufacturing start-up, and marketing start-up. My sample was chosen from the chemical, machinery, electrical equipment, instruments, rubber, and metals industries (*3*). It contains 50 matched pairs, in which each pair consists of a U.S. and Japanese firm of roughly comparable size in the same industry.

The percentage of total innovation cost devoted in Japan to

**Table 2.** Percentage distribution of innovation costs, 100 firms, Japan and the United States, 1985 (*5*).

| Stage of innovation process | Japan* (%) | United States (%) |
|---|---|---|
| Applied research | 14 | 18 |
| Preparation of product specifications | 7 | 8 |
| Prototype or pilot plant | 16 | 17 |
| Tooling and manufacturing equipment and facilities | 44 | 23 |
| Manufacturing start-up | 10 | 17 |
| Marketing start-up | 8 | 17 |
| Total | 100 | 100 |

*Due to rounding, numbers do not sum to total.

**Table 3.** Company R&D funds as a percentage of net sales, Japan and the United States (*12*).

| Industry | Japan (1986) | United States (1985) |
|---|---|---|
| Food | 0.8 | 0.4 |
| Textiles | 1.2 | 0.5 |
| Paper | 0.7 | 1.3 |
| Chemicals | 3.8 | 4.7 |
| Petroleum | 0.4 | 0.7 |
| Rubber | 2.9 | 2.2 |
| Ferrous metals | 1.9 | 0.5 |
| Nonferrous metals | 1.9 | 1.4 |
| Fabricated metal products | 1.6 | 1.3 |
| Machinery | 2.7 | 5.8 |
| Electrical equipment | 5.1 | 4.8 |
| Motor vehicles | 3.0 | 3.2 |
| Other transportation equipment | 2.6 | 1.2 |
| Instruments | 4.5 | 9.0 |
| Total manufacturing | 2.7 | 2.8 |

tooling and manufacturing equipment and facilities is almost double that in the United States. (Moreover, this difference is found in practically every industry in the sample.) This reflects, of course, Japan's emphasis on process engineering and efficient manufacturing facilities. On the other hand, the percentage of total innovation cost devoted to manufacturing start-up is significantly higher in the United States than in Japan. This may reflect greater difficulties in attaining desired quality levels in the United States than in Japan and the tendency of Japanese engineers to work more closely and directly with their work force than American engineers do (*6*).

Particularly striking is the difference in marketing start-up costs—that is, the expenses of pre-introduction marketing activities. In every industry in the sample, the percentage of total innovation cost devoted to marketing start-up in the United States is almost double that in Japan. If U.S. firms could reduce this percentage to the Japanese level (while holding constant the amount they spend on other stages of the innovation process), it appears that about 60% of the Japanese cost advantage would be eliminated (*7*).

## Industrial R&D

Many observers are impressed by the efficiency of Japanese industrial R&D. Indeed, the president of the Semiconductor Research Corporation has gone so far as to state that: "The United States may never match Japan's R&D efficiency" (*8*, p. 40). If one is willing to accept a highly simplified, but frequently employed, econometric model (*9*), the results are consistent with the contention that applied R&D in Japan has yielded a higher rate of return (*10*) than in the United States. This contention seems reasonable, given Japan's greater emphasis on commercial (rather than government-financed) projects and its reliance on advanced technology from the West, which could be adapted and improved at relatively low cost. On the other hand, the econometric results provide no indication that basic research has been particularly effective in Japan (*11*). Based on these findings, the Japanese advantage has been confined largely to applied R&D, particularly R&D concerned with the adaptation and improvement of existing technology.

Comparison of official data in both countries shows that the R&D intensity of manufacturing firms has increased more rapidly in Japan than in the United States, which is not surprising, given the previous finding that the rate of return from applied R&D has been higher there than here. In 1986, company-financed R&D expenditures in manufacturing were about 2.7% of sales in Japan, in comparison with about 2.8% in 1985 in the United States (Table 3) (*12*). In 1970, the corresponding figures were 1.3% for Japan and 2.2% for the United States. In all industries other than machinery, instruments, paper, and petroleum, Japan has narrowed the gap substantially. In some industries (food, textiles, metals, and rubber) Japan now leads; in other industries (paper, petroleum, machinery, and instruments) the United States now leads; and in the rest there is a relatively small difference in R&D intensity.

Japanese firms seem to give users of their R&D results a more important role in shaping their R&D programs than do U.S. firms. Japanese firms seem to base about one-third of their R&D projects on suggestions from their production personnel and customers, whereas only about one-sixth of U.S. projects come from these sources. Both production personnel and customers tend to be users of a firm's R&D results. In contrast, U.S. firms seem to put more emphasis than do the Japanese on the R&D function as a generator of R&D projects. Particularly in the electrical equipment industry, U.S. firms tend to base a larger percentage of their R&D projects on suggestions from R&D personnel than do Japanese firms.

## Composition of Industrial R&D

Because R&D projects are so heterogeneous, it is important to look behind the total R&D figures at the composition of firms' R&D expenditures. Fifty Japanese firms were chosen at random in the chemical, electrical equipment, instrument, machinery, rubber, and metals industries, and for each Japanese firm I picked at random a U.S. firm of the same industry and approximate size. The firms in this sample carry out about 25% of the R&D in each country in these industries. Based on detailed information obtained from each of these 100 firms (50 matched pairs), the Japanese seem to devote about as large a percentage of their R&D expenditures to relatively risky and long-term projects as do U.S. firms (Table 4). This differs greatly from the early 1970s, when Peck and Tamura characterized Japanese industrial R&D as composed very largely of "low-risk and short-term projects" (*13*).

However, it is by no means true that Japanese and U.S. industrial R&D have become essentially the same. Whereas U.S. firms report that almost one-half of their R&D expenditures are going for projects aimed at entirely new products and processes, Japanese firms report that only about one-third of their R&D expenditures go for this purpose (*14*). (Outside the chemical industry, in which there is little difference in this regard, the gap is even wider.) Of course, this is in accord with a great deal of anecdotal information to the effect that the Japanese devote more of their R&D resources to the improvement and adaptation of existing products and processes (rather than to the development of entirely new products and

**Table 4.** Composition of R&D expenditures, 100 firms (50 matched pairs), Japan and the United States, 1985 (*9*).

| Industry | Percentage of R&D expenditures | | | | | |
|---|---|---|---|---|---|---|
| | Basic research | Applied research | Products (rather than processes) | Entirely new products and processes | Projects with <0.5 estimated chance of success | Projects expected to last >5 years |
| | | | *All industries combined* | | | |
| Japan | 10 | 27 | 36 | 32 | 26 | 38 |
| United States | 8 | 23 | 68 | 47 | 28 | 38 |
| | | | *Chemicals** | | | |
| Japan | 11 | 42 | 48 | 42 | 24 | 39 |
| United States | 11 | 39 | 74 | 43 | 39 | 41 |
| | | | *Machinery,† instruments, metals, and rubber* | | | |
| Japan | 9 | 23 | 32 | 28 | [illegible] | 37 |
| United States | 4 | 9 | 62 | 51 | 16 | 36 |

*Including drugs. †Including electrical equipment and components.

processes) than do U.S. firms.

Even more striking is the difference between Japanese and U.S. firms in their allocation of R&D resources between projects aimed at improved product technology and projects aimed at improved process technology. The U.S. firms in this sample devote about two-thirds of their R&D expenditures to improved product technology (new products and product changes) and about one-third to improved process technology (new processes and process changes). Among the Japanese firms, on the other hand, the proportions are reversed, two-thirds going for improved process technology and one-third going for improved product technology (*15*).

These results shed new light on a major issue concerning industrial R&D in the United States. Many observers have criticized U.S. industry for neglecting process innovation. As the President's Commission on Industrial Competitiveness puts it, "It does us little good to design state-of-the-art products, if within a short time our foreign competitors can manufacture them more cheaply" (*16*, p. 20). Contrary to the common impression that U.S. firms have in recent years begun to react to such criticism by paying more attention to process innovation than in the past, my results do not indicate that there was any perceptible increase between 1976 and 1985 in the proportion of their R&D expenditures devoted to new or improved processes. Thus, in terms of the allocation of their R&D funds, U.S. firms do not seem to have put more emphasis on processes, despite this criticism.

## Industrial Robots: A Case Study

An important industry in which the Japanese are often cited as being ahead of the United States is industrial robots. Given that this is the case, it is interesting to compare the innovation process in the two countries in this industry. From data obtained from a sample of U.S. and Japanese robot producers that account for almost 90% of U.S. robot output and about 20% of Japanese robot output, it appears that the Japanese tend to be faster (by about 20 to 30%) and use less resources (by about 10%) than their U.S. rivals in developing and introducing a new robot (of comparable novelty, importance, and complexity). U.S. firms devote a much larger percentage (37% versus 10%) of innovation cost to marketing start-up, and a much lower percentage (4% versus 23%) to tooling and manufacturing equipment and facilities than do Japanese firms (*17*).

The composition of innovation costs differs between high-growth and low-growth robot producers. In both countries, high-growth robot producers tend to devote a much higher proportion of innovation costs to tooling and manufacturing facilities than do low-growth robot producers, and the proportion devoted to marketing start-up seems to be much lower among high-growth than low-growth robot producers. In this industry at least, it appears that the more successful firms in both countries, like the Japanese, tend to emphasize manufacturing in the innovation process, not marketing.

Given the oft-stated assertion that Japanese managers are often more patient than their U.S. counterparts, it is interesting to note that the proportion of R&D expenditure devoted to relatively long-term projects (those expected to last more than 5 years) does not differ significantly between the two countries—and the sample proportion is higher in the United States than in Japan (Table 5). Moreover, in contrast to other industries (as shown in Table 4), the share of R&D expenditure devoted to new products and product improvements (rather than new processes and process improvements) is higher for Japanese robot firms than for U.S. robot firms. Perhaps this is an indication that, as their technology becomes more advanced and they become world leaders in particular areas, Japanese firms will devote more resources to product R&D (relative to process R&D), and become more like U.S. firms in this respect.

In both countries, high-growth robot producers tend to be more research-intensive and technologically ambitious in their R&D programs than low-growth robot producers. The percentage of sales devoted to R&D was about two or three times as great among high-growth as among low-growth producers. The percentage of R&D expenditures devoted to research (rather than development), and the percentage aimed at entirely new products and processes, was at least twice as high among high-growth as among low-growth producers. In the robot industry, the more successful firms seem to devote a larger share of their R&D to more fundamental and technologically ambitious projects, which is likely to have contributed to their success (*18*).

**Table 5.** Composition of R&D expenditures, Japanese and U.S. robot producers, 1985 (*18*).

| Characteristics of firms* | Percentage of R&D expenditures | | | | |
|---|---|---|---|---|---|
| | Basic research | Applied research | New products and product improvements | Entirely new products and processes | Projects expected to last >5 years |
| Japanese firms | 12 | 23 | 65 | 51 | 10 |
| Large | 12 | 24 | 65 | 53 | 8 |
| Small | 11 | 17 | 73 | 10 | 34 |
| High growth | 15 | 32 | 73 | 63 | 6 |
| Low growth | 6 | 11 | 51 | 34 | 12 |
| U.S. firms | 13 | 21 | 39 | 46 | 17 |
| Large | 15 | 23 | 41 | 44 | 11 |
| Small | 2 | 8 | 25 | 56 | 50 |
| High growth | 14 | 29 | 48 | 52 | 12† |
| Low growth | 15 | 4 | 22 | 19 | 11† |

*In the United States, a small robot producer is one with 1984 sales below $5 million; a large robot producer is one with 1984 sales of $5 million or more. In Japan, a small robot producer is one with 1983 sales below 800 million yen; a large robot producer is one with 1983 sales of 800 million yen or more. In the United States, high-growth producers are defined as those that had more than a 50% average annual increase in robot sales from 1982 to 1985; low-growth producers are those that had a 50% increase or less. (Of course, this is a short period, but the robot industry is very young. In one case where data were unavailable for 1982 to 1985, the growth rate had to be based on only part of the period.) In Japan, high-growth producers are those that had an average annual growth rate of sales of more than 50% during 1979 to 1984; low-growth producers are those that had an average annual growth rate of 50% or less. (In cases where data were unavailable for 1979 to 1984, the growth rates had to be based on only part of the period.) For lack of data, not all of the sample can be classified as "high growth" or "low growth." Joint ventures between U.S. and Japanese firms are omitted, since they are neither purely American nor purely Japanese. †Because of lack of data, not all of the sample can be classified as "high growth" or "low growth." This explains why both these percentages are below the figure of 17% given in this column for all U.S. firms.

## The Diffusion of Industrial Robots

Although the industrial robot was largely an American invention, the rate of imitation for industrial robots in the United States was slow, relative to other major industrial innovations. On the basis of data I obtained from a random sample of 100 major firms, it took, on the average, about 12 years (from the date of first use in the relevant industry) for half of the major potential users in ten industries—autos, auto parts, electrical equipment, appliances, steel, nonferrous metals, aerospace, farm machinery, machine tools, and other machinery—to begin using robots (Table 6). In contrast, it took only about 5 years, on the average, for half of the potential users in an industry to begin using numerically controlled machine tools, an important precursor of robots (*19*).

In Japan, where U.S. robotics technology began to be transferred in the 1960s, the rate of imitation was faster than in the United States. On the basis of data I obtained from a random sample of 75 firms, it took, on the average, about 8 years (from the date of first use in the relevant industry) for half of the major potential users in four industries—autos, electrical equipment, metals, and machinery—to begin using robots. In both the United States and Japan, the imitation process can be represented reasonably well by a simple econometric model I suggested a number of years ago (*20*). According to the results, Japan's higher rate of imitation can be explained entirely by its later start, which enabled it to use earlier experience in the United States and elsewhere.

Turning from the rate of imitation (the growth over time in the number of firms using robots) to the intrafirm rate of diffusion (the growth over time in the number of robots used by a firm), it seems clear that the intrafirm rate of diffusion has tended to be much greater in Japan than in the United States. In my sample, the number of robots used per 10,000 employees in 1985 was about four to eight times as great (depending on the industry) in Japan as in the United States (*21*).

In considerable part, this observed difference in robot use between Japan and the United States seems to be due to differences in the minimum rate of return required to justify investing in robots. Whereas the Japanese often invest in robots yielding returns of 20%, U.S. firms frequently insist on 30% or more. This difference in minimum required rates of return has been noted in other studies as well, and it may reflect a tendency, cited by Kaplan (*22*) and others, for U.S. firms to exaggerate their cost of capital. On the basis of data I obtained from the Japanese firms in the sample, it seems that, if they had applied the same "hurdle rates" as their U.S. rivals, their robot use would have fallen by 50% or more.

**Table 6.** Number of years before half of major potential users introduced robots, Japan and United States, by industry (*19*).

| Industry | Number of years |
|---|---|
| *United States* | |
| Autos and trucks | 15 |
| Auto parts and equipment | 8 |
| Electrical equipment | 17 |
| Appliances | 19 |
| Nonferrous metals | 20 |
| Steel | 3 |
| Farm and construction machinery | 18 |
| Machine tools and industrial machinery | 16 |
| Other machinery* | 1 |
| Aerospace | 7 |
| Mean | 12 |
| *Japan* | |
| Autos | 6 |
| Electrical equipment | 2 |
| Metals | 9 |
| Machinery | 15 |
| Mean | 8 |

*Because the sample in this industry is small, this result should be treated with considerable caution.

## Conclusions

At least five conclusions seem to follow from the studies described above. First, with respect to the differences between the two countries in innovation cost and time, the situation is much more varied and complex than is generally portrayed by the largely anecdotal accounts that have begun to appear. Whereas the Japanese have substantial advantages in this regard in some industries (notably machinery), they do not seem to have any substantial advantage in others (notably chemicals). Whereas they have very great advantages in carrying out innovations based on external technology, they do not seem to have any in carrying out innovations based on internal technology.

Second, a large part of America's problem in this regard seems to be due to its apparent inability to match the Japanese as quick and effective users of external technology. As Brooks has warned, "The United States, so long accustomed to leading the world, may have lost the art of creative imitation" (*23*, p. 17). This is not to deny that part of the Japanese advantage may be due to factors like their propensity to overlap various stages of the innovation process, their subcontractor network, and their fewer organizational barriers and better communication between functional departments of firms. But the fact that the Japanese advantage tends to be limited to innovations based on external technology suggests that it is in this area that many central problems lie.

Third, part of these problems may be related to the differences between Japan and the United States in the way resources are allocated in the industrial innovation process. Whereas U.S. firms emphasize marketing start-up to a much greater degree than do the Japanese, they put much less emphasis on tooling, equipment, and manufacturing facilities than do Japanese firms. Perhaps U.S. firms might consider whether they safely can reduce the cost and time devoted to marketing start-up without impairing the vital interface between R&D and marketing. Although it would be foolish for the United States, which has long been at the forefront of industrial innovation to attempt mindlessly to mimic the Japanese, it would also be foolish not to try to learn from them.

Fourth, my results, which are subject to many limitations detailed elsewhere (*9*), support the contention that applied R&D in Japan has yielded a handsome return, higher than in the United States. In large part, this can be explained by Japan's greater emphasis on commercial (rather than government-financed) projects, by its ability to obtain Western technology that was more advanced than its own, and which could be adapted and improved at relatively low cost, and by its emphasis on process technology, which according to many experts has tended to be neglected in the United States. On the other hand, there is no evidence that the rate of return from basic research has been relatively high in Japan. Apparently, the Japanese advantage has been confined largely to applied R&D, particularly R&D concerned with the adaptation and improvement of existing technology.

Fifth, my results concerning robotics, an important area where the Japanese currently seem to have an edge, suggest that the Japanese advantage increases as one moves from R&D toward the market. Whereas the Japanese seem to be quicker and more efficient innovators, they do not seem to be more effective at R&D. Whereas they have introduced many more robots than U.S. firms, they have not been quicker to begin using them (when account is taken of their later start). If, as many observers claim, U.S. industry has not used robots as fully as it should, the principal fault does not seem to lie with U.S. R&D. Instead, this case seems to illustrate the contention that, in those areas where the United States is falling behind competitively, it is due frequently to problems not so much in R&D or inventiveness, but in the commercial application of science and technology.

---

### REFERENCES AND NOTES

1. For important studies of the relation between technological change and economic growth, see E. Denison [*Trends in American Economic Growth* (Brookings Institution, Washington, DC, 1985)] and J. Kendrick [J. Kendrick, Ed., *International Comparisons of Productivity and Causes of the Slowdown* (American Enterprise Institute/Ballinger, Washington, DC, 1984)].
2. For two articles dealing with the competitiveness of U.S. industry, see S. Cohen and J. Zysman [*Science* 239, 1110 (1988)] and L. C. Thurow [*ibid.* 238, 1659 (1987)].
3. The chemical industry referred to in this section includes pharmaceuticals; the machinery industry includes computers.
4. The overall U.S.-Japanese differences in Table 1 are highly significant in a statistical sense; the all industry mean ratios differ from 1.00 at the 0.01 probability level. This is also true for many of the figures in the machinery, instruments, and chemical industries, but in other industries like metals and rubber, many of the figures are based on relatively few observations. Note too that, although the estimates in Table 1 were based on reasonably precise data concerning the firms' own times and costs, they sometimes had to be based on the best judgment of the firms' leading executives concerning their rivals' times and costs. The data in my 60-firm sample described later in this article are free of this problem.
5. For a more detailed account of the studies in this and the next two sections, see E. Mansfield (*Manage. Sci.*, in press).
6. It may also be related to the fact that the percentage of innovation cost devoted to tooling and manufacturing equipment and facilities is lower in the United States than in Japan.
7. For all industries combined, the difference between Japanese and U.S. firms in the percentage of innovation cost devoted to tooling and manufacturing cost and facilities, as well as the difference between them in the percentage devoted to marketing start up costs, is statistically significant at the 0.01 probability level.
8. L. W. Sumney and R. M. Burger, *Issues Sci. Technol.* 3, 32 (summer 1987).
9. For this model as well as a more detailed account of the studies described in this and the next section, see E. Mansfield [*Am. Econ. Rev.* 78, 223 (1988)].
10. As pointed out in (9), this rate of return pertains to entire industries, not to particular firms, in Japan and the United States.
11. The National Science Foundation's definitions of basic research, applied research and development are used here.
12. Bureau of Statistics, *Report of the Survey of Research and Development in Japan* (Bureau of Statistics, Tokyo, 1987); National Science Foundation, *National Patterns of Science and Technology Resources, 1987* (Government Printing Office, Washington DC, 1988). G. Saxonhouse translated the Japanese material.
13. M. J. Peck and S. Tamura, in *Asia's New Giant*, H. Patrick and H. Rosovsky, Eds. (Brookings Institution, Washington, DC, 1976).
14. Of course, the distinction between an entirely new product or process and an improved or modified product or process is often arbitrary (although it frequently is used).
15. Among the large R&D spenders (top 20%), this difference between U.S. and Japanese firms is significant at the 0.01 probability level. From the point of view of the economy as a whole, a large proportion of the resources allocated to product technology in the United States really goes for processes, since one firm's products frequently are parts of another firm's processes. Thus, this difference between Japan and the United States reflects a difference in how much of the process R&D for a given product is carried out by the producers of the product and how much is done by equipment producers and other suppliers of the producers of the product. As many observers have stressed, there can be disadvantages in leaving this sort of R&D to the latter firms. (Of course, the observed U.S.-Japan difference in this regard is due partly to differences in industrial and firm structure.)
16. President's Commission on Industrial Competitiveness, *Global Competition: The New Reality* (Government Printing Office, Washington, DC, 1985).
17. These U.S.-Japanese differences are statistically significant. For a more detailed account, see E. Mansfield (paper presented at Symposium on Research and Development, Industrial Change and Economic Policy, University of Karlstad, Sweden, June 1987). Also, see R. Ayres, L. Lynn, and S. Miller [in C. Uyehara, Ed., *Technological Exchange: The U.S.-Japanese Experience* (University Press of America, Washington, DC, 1982), pp. 77-115].
18. E. Mansfield, *Manage. Decis. Econ.*, in press. For the statistical significance of these differences, see E. Mansfield in (17).
19. ______, "The diffusion of industrial robots in Japan and the United States" (working paper, Center for Economics and Technology, University of Pennsylvania, Philadelphia, 1987).
20. ______, *Econometrica* 29, 741 (1961).
21. Also see K. Flamm [*International Differences in Industrial Robot Use* (Brookings Institution and Development Research Department, World Bank, Washington, DC, May 1986)].
22. R. Kaplan, *Harv. Bus. Rev.* 64, 87 (1986). According to some economists, the cost of capital is higher in the United States than in Japan. This too might account for the higher hurdle rates in the United States than in Japan.
23. H. Brooks, *Japanese Technological Advances and Possible United States Responses Using Research Joint Ventures.* Testimony before Subcommittee on Science, Research and Technology of the House Committee on Science, Space, and Technology, 98th Cong., 1st sess., 29 to 30 June 1983.
24. The research on which this article is based was supported by grants from the National Science Foundation, which, of course, is not responsible for the views expressed here.

## BIOTECHNOLOGY

Dr. YOUNG. Biotechnology will be the last frontier, in my opinion, in the 20th century, a frontier which will well extend into the 21st century.

If we cannot bring academe, government, and industry together in a way that we have proper regulations that provide and protect safety, but allow for the conduit of new scientific discoveries, and do this broadly over the Nation, I believe we will have failed.

I feel very passionately this way as a person who has been involved in the field of biotechnology from its beginning having discovered the third enzyme in the world used in cloning and breaking DNA, working on many of the vectors and vehicles.

And, thus, I believe that this technology offers a great deal for agriculture, veterinary medicine, devices, human biologics, and the absolute need to develop these kinds of resources; to also train our high school teachers, so that our young people are not Neanderthal in science.

We have decreased substantially in the United States in our capability in both science and engineering. And biotechnology, again, is a frontier that we cannot afford to lose.

## PREPARED STATEMENT

Mr. Chairman, I have covered in great detail many of the subjects in my testimony, but I wanted to focus on this single one so that I could use my time to tell you of this important frontier and save enough time for questions on the many other areas that FDA covers by regulating about $570 billion of industry, or 25 cents on every dollar in the consumer market.

Thank you, Mr. Chairman.

[The statement follows:]

### STATEMENT OF DR. FRANK E. YOUNG

Mr. Chairman, I thank you for the opportunity to appear before your subcommittee today to support the Food and Drug Administration's budget request for 1990. I would first like to introduce my colleagues at the table with me. Other members of my staff are also present to respond, if necessary, to specific questions and interests of the Committee.

I am pleased to report that FDA, in my estimation, has responded well to the challenges and critical tasks this past year associated with the performance of its regulatory responsibilities, particularly in light of the continuing advance of technological innovations which affect the health and well-being of the American public. The agency has remained steadfast in the urgent need to direct resources to the understanding and development of therapies for the treatment of AIDS and AIDS-related diseases. In addition, we have continued to make significant progress in our efforts to combat the problems associated with food safety, and the availability of safe and effective drugs and medical products. Of particular note is the recent rapid detention and release of fruit from Chile after an inspectional plan was established. Additionally we are steadfastly increasing our focus on food safety in general, with particular focus on chemical and microbial contaminants.

As FDA prepares to enter the last decade of the 20th century, the Agency can point with pride to the successes achieved in the past and at the same time acknowledge that the new decade ahead holds new challenges which must be met if we are to continue to assure the consuming public that the foods they eat are safe, and that the drugs, medical devices, vaccines, veterinary drugs, blood products, and radiological products they use are safe and effective.

I believe that we are on the crest of a wave of technological change which will have a profound impact on the course of medical science in the years ahead. The advent of the influence of biotechnology on our everyday lives is only going to get greater and FDA must remain on the forefront of this advancing wave if it is to fulfill its mission. For this reason, we are engaging in a revitalization effort, a program of self-assessment, the purpose of which is to determine the changes which ought to be made in the way we conduct our business in order to accommodate the changing health environment.

I have spoken to you in the past of our action plan, which I initiated shortly after I came to FDA. This has served as a valuable tool in managing the agency. Now the action plan process becomes an important component of this revitalization effort, standing as a mechanism for redefining goals and objectives as well as for reassessing resources necessary for accomplishment.

In addition to the action plan, I have, since February 8th, initiated a series of exhaustive reviews of every FDA line organization. This involves a full day each for each of FDA's six Centers and the Office of Management and Operations. These reviews are being conducted away from the Parklawn Building to allow me to focus in detail on the activities and concerns of each of the components of FDA. In addition, I am conducting half-day reviews with staff comprising the Office of the Commissioner. These introspective efforts are highlighting constructive avenues for the future direction of FDA as well as a firm basis for determining the resources necessary to get there. These detailed reviews are providing invaluable information for me and my management team as we prepare for the next decade.

I would like to briefly discuss our activities, accomplishments, and concerns under the following major themes:

—Emergencies
—Therapies for the Desperately Ill
—Drug Abuse
—Biotechnology
—Sound Nutrition for a Healthy America
—Other Public Health Issues
—FDA and Academia

Then I will give you a very brief summary of our budget request.

## EMERGENCIES

FDA is often known to the public because of its role in dealing with emergencies that present an immediate threat to the public safety and health, and this has certainly been the case in the last month. Since early March, we have been devoting a tremendous amount of our attention to the crisis with Chilean fruit. Although we believe that the situation has now been stabilized, the impact on FDA has been remarkable. Over four hundred FDA staff have been directly involved, and we expect to use at least 50 FTEs this year just on this one problem. In effect, what we had to do in this case was a double burden, since we had to deal with the fruit distributed around the country that could have been tampered with, while at the same time we had to supervise the screening of all of the additional fruit arriving, after we had a plan in place to allow distribution. While other emergencies, such as the outbreaks of tampering incidents in both 1982 and 1986, have had tremendous impact on both FDA and the industries affected, in this situation the threat impacts a major segment of the income of one of our American neighbors, as well as the health of the American public.

One of the things I have learned from this experience is that we at FDA don't have the information base we need in order to respond rapidly to terrorist threats or actions. In the heat of this crisis, we had to do our own basic research on the effects of various cyanide contamination levels in grapes and other fruit. Methods that we used effectively to screen cyanide in capsules in the past could not be used to detect cyanide in produce.

After this crisis is behind us, the Agency must develop forensic laboratory capabilities both to identify signs of contamination by various toxic agents in products that we regulate, and to develop rapid screening techniques to use in identifying these toxins in various emergency situations. Only by dedicating ourselves to this effort in the near future will we be adequately prepared to handle the next product emergencies that we will have to face.

Perhaps not so well known as product emergencies is the range of things FDA must do to protect the public from less visible and long-term risks. As I will discuss in more detail later, these duties range from screening foods for disease and for pesticides and other contaminants, to studying ways of reducing exposure to unnecessary radiation from x-rays as well as from microwave ovens. It is in some of these less well known areas, that are no less important or resource intensive, that FDA can have just as great an impact on people's health. Just as a way to reduce x-ray exposure can reduce the long-term incidence of cancer, our risk assessment research on other medical devices can greatly reduce the likelihood of failure or improper use of lifesaving devices such as pacemakers and dialysis machines. Research and enforcement to reduce lead levels in foods and other products has reduced a clear threat to the growth and development of our children. In these and many other ways, FDA must be prepared not just to respond to crises, but to conduct the applied research that often prevents problems, or at least gives us the means to respond promptly and effectively.

## THERAPIES FOR THE DESPERATELY ILL

### *AIDS*

I am deeply concerned about the individuals who are suffering from the devastating effects of AIDS and I am painfully aware of their desperate efforts to seek treatment. No higher priority exists for us than to find a way to alleviate their suffering and provide hope for the thousands infected with this deadly virus.

FDA's primary role in combating AIDS involves our responsibility for the premarket review of new drugs and biologics, including vaccines. To ensure that these products, once developed, reach AIDS patients as rapidly as possible, we have instituted significant new procedures at FDA for reviewing applications for these products, including formalizing procedures for making investigational drugs more widely available to those who are desperately ill. We also are responsible for the premarket review of medical devices, as well as for the safety of the blood supply through licensure and inspection of blood and plasma collection facilities. We are continuing the annual inspections of blood facilities. We are constantly looking for ways to enhance quality control assurances through these inspections, and we have also increased efforts toward improving the safety and quality of AIDS-related medical devices.

FDA's research activities, conducted within the sphere of our regulatory responsibilities, continue to play a significant role in the development of AIDS therapies and diagnostics by defining parameters that must be met by all products regardless of sponsor.

FDA's AIDS program is part of an enormous Public Health Service effort which involves all of the major PHS agencies. We are working closely, for instance, with the National Institutes of Health to facilitate the development and evaluation of any therapeutic agent which appears to be promising. We also work with the Centers for Disease Control in monitoring the results of screening tests for AIDS and in other prevention and educational efforts. Collaboration also continues with the Alcohol Drug Abuse and Mental Health Administration in efforts to reduce drug abuse, a major cause of AIDS' infections.

The total PHS effort against AIDS is proposed at a level of $1.6 billion in 1990, a 24 percent increase over the 1989 level. Once again, the administration is proposing a consolidation of resources in support of all PHS activities under the direction of the Assistant Secretary for Health. This "National HIV Program" account is planned as an effective and necessary management tool for coordination of effort and to provide flexibility in areas where the need for additional effort is difficult to predict. Of the total PHS request, $56.9 million is being requested to expand FDA's AIDS program, including an increase of 183 FTEs, for a total of 506 FTEs devoted to this effort at FDA in 1990.

*Current Status of AIDS Therapies*

Efforts by industry, academia, and government to develop diagnostics, treatments, and vaccines for AIDS have produced an unprecedented number of product applications submitted for FDA evaluation and licensing. From 1985 to 1987, applications submitted for investigational studies of AIDS-related products increased from 59 to 163, an increase of over 200 percent. As of March 1, 1989, the total number of AIDS-related INDs received for the treatment, diagnosis, and prevention of AIDS and AIDS-related diseases has risen to 255, representing 148 different products. Of these INDs, 88 percent—224—have been approved to test in humans, including 46 for antiviral drugs, 70 for immunomodulators, 4 for vaccines, 6 for antineoplastics, 49 for drugs to treat opportunistic infections, and 49 for diagnostics. We now receive close to 10 investigational applications a month. We believe that this number of AIDS-related applications will rise to 350 by the end of 1989 and to over 500 by the end of 1990.

We have now approved for marketing a total of 13 products intended for use in the prevention, diagnosis, or treatment of AIDS and AIDS-related diseases. We have also approved 3 treatment INDs for AIDS-related conditions. In addition, we are currently reviewing 17 additional applications for marketing AIDS products. While zidovudine (commonly known as AZT) remains the only approved drug to treat AIDS directly, a variety of other therapies are being tested for direct effects on AIDS as well as to treat opportunistic infections and cancers that are often fatal to persons with AIDS.

The injectable form of the drug pentamidine to treat pneumocystis carinii pneumonia (PCP), often a fatal opportunistic infection of AIDS, was approved in about six months. This past November, we approved alpha interferon to treat Karposi's Sarcoma, a cancer resulting from AIDS infection. The National Institute of Allergy and Infectious Diseases (NIAID), which is conducting the studies of alpha interferon, is also conducting studies comparing treatment combining alpha interferon and zidovudine to treatment with either product alone. I anticipate that combination therapies will become increasingly important in the treatment of AIDS, in the same way that they have in the treatment of other diseases such as tuberculosis and many cancers.

Three treatment INDs for AIDS-related conditions have been approved. Trimetrexate was the first, approved for expanded distribution last February, to treat pneumocystis carinii pneumonia. The second was granted for Ganciclovir this past November to treat patients with cytomegalovirus retinitis in whom the stage of the disease is immediately sight-threatening. We just recently approved the prophylactic use of aerosolized pentamidine to reduce the incidence of pneumocystis carinii pneumonia.

*Medical Devices and AIDS*

FDA has continued to focus attention on devices that can help prevent the transmission of AIDS, concentrating particularly on the effectiveness of medical gloves as well as condoms. From the Spring of 1987 through the end of 1988, our field personnel have tested approximately 183,000 condoms and I am pleased to report that during this time we have seen a statistically significant improvement in the quality of condoms.

Although our glove program is not as far along as our condom program, we can already see parallels, and we look forward to a similar degree of improvement. Since the inception of a testing program last year, our field surveillance staff have tested over 50,000 gloves and found approximately 7,800 sampled units which failed to meet FDA specifications.

Recently, FDA issued a final rule revoking the existing exemption from premarket notification procedures and good manufacturing practices (GMP) regulations for non-sterile patient examination gloves. We felt that this action was needed to provide a greater assurance that patient examination gloves will provide effective protection against HIV contamination. Revocation of the premarket notification exemption allows us to better monitor the initial marketing and subsequent manufacturing changes of these devices. In addition, compliance with the regulations will help assure that these gloves are manufactured at an acceptable level of quality.

*Blood Safety*

As part of our responsibility for overseeing the safety of the nation's blood supply, we launched a program in 1988 to inspect every FDA-regulated blood bank and plasma center annually. Inspections of all 2,424 of these facilities last year revealed a number of deviations in procedures from FDA regulations. This past September, in an effort to improve procedures and eliminate errors, the American Red Cross and FDA signed an agreement calling for the Red Cross to make several administrative and management changes in their operations across the country. Unfortunately, just last month we were forced to notify the Red Cross that we will initiate proceedings to revoke the license of the Red Cross blood center in Albany, New York, pending receipt of a plan by the Red Cross to correct errors found in the blood handling procedures. We believe that the Red Cross can make the necessary corrections. Our inspection program will continue to focus on procedures used by the blood and plasma industry in donor screening, testing for hepatitis and HIV antibodies, and procedures for quarantine and destruction of unsuitable blood products.

Efforts to develop more effective blood tests for the detection of antibodies to, and antigens of, HIV, have resulted in the approval of over 45 INDs for trials. Nine antibody test kits, including seven ELSIA screening tests, one particle-agglutination screening test, and one Western Blot as an additional more specific test, have been licensed. I must add that we have devoted very serious consideration to blood collection systems intended for HIV testing, or AIDS home test kits. We have concerns about how to regulate these tests outside a medical setting. Until questions are resolved regarding their accuracy, training required for use, and the psychological impact of results on the patient, we have issued specific medical guidelines, based upon consultation with our advisory committees, restricting the kits to professional use within a comprehensive health care environment. To allow for further comment and analysis of this issue, we have scheduled a public meeting on April 6, where a full range of views can be presented.

*Health Fraud—AIDS*

The understandable desperation of AIDS patients creates a susceptible market for any and all products coming down the pike which claim to offer relief from their pain and suffering. It is indeed unfortunate that there will always be persons who will take advantage of this desperation by marketing products with false or questionable claims. Because of that, our efforts in the field to combat the marketing of fraudulent AIDS health products continue to expand. Our field enforcement activities have resulted this year in the filing of two injunctions against firms promoting fraudulent products for AIDS, and seven seizure actions were taken to remove such products for the market. In addition, 37 regulatory letters containing warnings to correct false claims were issued.

Informing the public and health professionals on the prevention of the transmission of HIV as well as the availability of approved therapies continues to be a critical element of FDA's AIDS program. In addition, we are proceeding to implement provisions of the Omnibus Health Act of 1988 which require us to develop and provide a data base with information on trials of products which are being studied for effectiveness.

*New Drug Evaluation*

FDA has the responsibility of assuring that new therapies are safe and effective and that these are made available expeditiously to the public. We cannot afford to fail on either count. Accordingly we have placed the evaluation of new therapies in general and AIDS in particular as FDA's highest priority. As evidence of the success of this effort, we reduced pending overdue original new drug applications by 22%, from a December, 1987, total of 91 to a new low of 71 in December, 1988. Twenty-two new chemical entities were approved in fiscal year 1988, along with a total of 68 New Drug Applications.

Last fall, FDA announced the implementation of new regulations designed to make promising therapies available sooner for patients with life-threatening and severely debilitating diseases. The plan was developed at the request of then Vice-President Bush in his capacity as Chairman of the President's Task Force on Regulatory Relief.

The new regulations emphasize the need for consultation between FDA and sponsors early on as well as throughout the drug development process. Protocol design and development is also crucial. Only this way can we get the well-designed, well-controlled studies that will make this plan work. By preventing false starts and wasted effort, we can do much to save time and cut costs. These regulations also provide for focused regulatory research so that the Agency can apply its scientific base to help sponsors with rate-limiting research steps.

In other activities related to new drug review, we have completed a thorough evaluation of all of our applied research activities within the Center for Drug Evaluation and Research, to assure that they are most effectively directed to supporting the new drug review process as well as monitoring the safety and quality of drugs on the market.

We have also begun to expand the use of technology to enhance the review of NDAs by inviting firms to submit portions of their NDAs in automated form. These partial submissions are coming to us on various magnetic media, optical disks, and via telephone connections. Although we have not received an entire NDA electronically, we anticipate that this could occur in the future. In addition, review was initiated on 20 computer-assisted NDAs which were received in 1988.

Based on our experience with the NDAs we have reviewed thus far, we believe that there are benefits to automated submissions. The process requires early dialogue between the manufacturers and FDA and our medical reviewers can receive rapid responses to direct inquiries about the clinical data received, precluding needless delays.

One aspect of the drug review process that has become increasingly important is that of Effectiveness Supplements—supplemental applications to New Drug Applications where the sponsor seeks approval of additional medical uses or new ways of administering for a drug which is already approved. Some estimates are that as much as 50 percent of prescription drug use is for indications not specifically approved by FDA. In many cases, health care reimbursement agencies and insurers will not pay for such use. The increasing concern by doctors and patients that reimbursement should be made, even if the specific indication is not approved by FDA, coupled with the physician striving for the most appropriate treatment of a serious disease, will lead to increasing numbers of effectiveness supplements coming to FDA in the foreseeable future.

It is important to emphasize that FDA regards the use of medicinal drugs by physicians, for conditions other than the label indications, as the appropriate and traditional practice of medicine. FDA is in partnership with physicians in the safe and effective use of medicines. FDA analyzes the data submitted by the sponsor at a point in time, to support approval for a particular indication. The physician then uses the medicine for years and decades later with the full knowledge of the biomedical and scientific literature, as it evolves, to treat patients for additional indications. The development of medical drugs takes many years and usually focuses on a narrow indication. The patient benefits from new advances when the physicians can adopt therapies of known safety to new uses as expeditiously as possible.

Under FDA's treatment IND regulations which became effective in June, 1987, drug developers may receive approval to provide promising experimental therapies to patients with immediately life-threatening or certain serious conditions even before complete data on the drug's efficacy are available to secure approval for full commercial distribution. Since implementation of the treatment IND regulations, nine requests have been granted for treatment IND status, including Trimetrexate, for treatment of pneumocystis carinii pneumonia; Cytomegalovirus Immune Globulin, for treatment of renal transplant patients to prevent cytomegalovirus infections; Ifosfamide and Mesna, to treat refractory germ cell carcinoma; Anafranil (Clomipramine HC1), to treat severe cases of obsessive compulsive disorder; Eldepryl (Selegiline HC1), for treatment of severe Parkinson's disease; Pentostatin, for treatment of hairy cell leukemia refractory to Alpha Interferon; Teniposide, for treatment of refractory acute lymphoblastic leukemia; and, Ganciclovir, for AIDS-related cytomegalovirus retinitis; and aerosolized Pentamidine (Isethionate) for treatment of pneumocystis carinii pneumonia.

In our 1990 request, we are asking for an increase of $1.6 million for research contracts, other contractual services, and cooperative agreements with extramural institutions in order to support continuation of our efforts to improve the quality and timeliness of drug application review.

*New Device Evaluation*

In 1988, we were able to prevent the redevelopment of significant backlogs in the device review program, despite the receipt of a record number of major submissions. Average review times went down or remained steady in all of the program areas except for 510(k)s (application which demonstrate that a device is substantially equivalent to a device marketed before enactment of the Medical Device Amendments of 1976). For 510(k)s, the average review time rose from 69 to 78 days. The number of 510(k)s received, however, rose in 1988 (from 5,265 in 1987 to 5,536 in 1988) and the percentage of 510(k)s reviewed within the 90-day statutory period rose from 96% in 1987 to 99% in 1988. Average FDA review time for PMAs was reduced from 337 days in 1987 to 262 days in 1988. The percentage of IDEs approved within the 30-day statutory period rose to 99%.

Among the medical device approvals this past year were several which represent significant advances in medical device technology: (1) the Kelvin model 500 pacing system was the first approved pulse generator to use temperature, as measured in the right ventricles, as an indicator of physiological stress for the purpose of regulating a patient's heart rate; (2) the Pretif Cavityrim cervical cap was the first barrier contraceptive medical device approved by FDA since the 1976 amendments; (3) the ColorGene Hybridization Test, the first nucleic acid probe for the detection of herpes simplex virus type 1 and 2, and (4) the SNAP Rotavirus Diagnostic Kit. These latter two are examples of two diagnostic test kits which utilize DNA probes to enable the clinical laboratory to speed up identification of significant human viral pathogens. This allows the physician to more rapidly and correctly diagnosis a patient's condition.

*Medical Device User Education*

FDA interaction with the medical community and academia frequently occurs in the resolution of problems with the use of medical devices.

FDA administers a multi-faceted program to protect the public from unsafe foods and dangerous or ineffective products. In some cases, education and professional outreach are more effective solutions to public health problems than the more traditional regulatory approaches. This is especially noticeable within our Center for Devices and Radiological Health where these tools have been used effectively to resolve problems related to user error rather than device design, manufacturing, or malfunction.

In some situations, the Center has sent safety alerts to warn health professions of acute problems, such as those with homemade saline solutions for contact lenses or water treatment in dialysis facilities. Other times, the Center has worked cooperatively with the affected industry and the consumers who use the equipment or the health professionals who train the users to identify problems and develop solutions. We believe that the development of an educational program is best accomplished when all members of that "device community" participate in the process. These efforts have resulted in collaborative educational materials and programs that are promoted by the device manufacturers and health professionals as well as FDA. Examples of these materials include videotapes for dialysis professionals on user error and water quality and a pre-use checkout list for anesthesiology systems, as well as a series of training videotapes for anesthesiology professionals and a traveling training exhibit. Currently similar efforts are underway to address problems associated with techniques in using central venous catheters, user and maintenance problems with defibrillators, training needs for nurses who use a myriad of medical devices in hospitals, and concerns about informed consent for prospective recipients of breast implants. Working with manufacturers and users of devices has proved to be an effective way of pinpointing device problems and devising programs that will address the causes of those problems.

In order to sustain the progress that we have achieved in new device review, we are requesting an increase of $1.5 million for 1990 for the purchase of equipment and technology to be used in the device review process.

*Orphan Product Development*

We continue to promote and encourage the development of drugs, biologicals, medical devices, and medical foods for rare diseases or conditions. During the calendar year 1988, 137 applications were reviewed, and there were 74 designations approved. Nine orphan drugs were approved for marketing, including two related to the treatment of an AIDS-related disease. Since the enactment of the Orphan Drug Product Act, a total of 257 designations have been made and 33 orphan drugs have been approved. We estimate that another 135 sponsor requests for orphan drug designation will be received for review in 1990.

Under the very important orphan products grant program, about $2 million was awarded for 20 new studies in 1988. These studies were designed to provide information on human safety and effectiveness of 14 drugs, two food products, and four medical devices for diseases or conditions such as: neonatal cholestasis; obsessive compulsive disorder; g.i. Fistulas; Stevens-Johnson Syndrome; respiratory distress syndrome; combined immunodeficiency; Tourette's Syndrome; type I glycogen storage disease-nephropathy; adrenoleukodystrophy; spinal cord stimulation for artificial respiration in humans; glottal insufficiency; percutaneous embolization; and unstable diabetes.

Additionally, $2 million was expended during the year for funding the continuation of studies begun in prior years. As provided in our appropriations, $4.9 million will be expended this year for orphan product grants and contracts, and $5.1 million is requested for new and continuation awards in 1990.

## DRUG ABUSE

Long acknowledged as a great human tragedy on the American scene, drug abuse has been targeted by this administration for expanded efforts to curb its onslaught and the tragic consequences of its existence. Within the purview of its regulatory responsibilities, FDA has been concerned with the abuse of illegal drugs, as well as the misuse of approved drugs, such as steroids. FDA's ongoing efforts were bolstered by the passage of the Anti-Drug Abuse Act of 1988 in November, which included an appropriation in the amount of $5 million for FDA's activities related to the prevention of drug abuse.

We have an ongoing responsibility for monitoring methadone narcotic treatment centers to assure their compliance with established standards related to DEA registration. We are now emphasizing a more positive approach in these efforts through the conduct of site visits to an expanded number of centers to identify areas such as counseling and support services, screening techniques, and medical supervision of dosage administration where assistance can be provided in order to improve operations.

A second part of our expanded efforts in the methadone treatment area concerns increasing the availability of methadone to drug users. It is estimated that there are some 500,000 heroin users for whom methadone offers the only relief from addiction, but, traditionally, methadone is only used as a part of a comprehensive treatment program and there are waiting lists of some six months or more at some clinics. According to the National Institute on Drug Abuse, these treatment backlogs exist in three out of every four cities with clinics. To improve treatment of heroin addicts, we have just joined with NIDA to propose that methadone be made available, along with counseling on avoiding AIDS, to heroin addicts for an interim period, while they are awaiting room in such a comprehensive program. Our proposal is based on the evident success of a pilot interim treatment program at Beth Israel Medical Center in New York City.

Equally important as the abuse of illegal drugs is, we believe, the widespread illegal marketing and abuse of anabolic steroids, where distribution channels and underground activities closely resemble those for other illicit drugs such as cocaine. While we have no reliable data on the dollar value of the anabolic steroids being used for illicit purposes, a recent study released by AMA suggests that between 250,000 and 500,000 male high school students may be using these drugs for a variety of purposes. Sadly, the abuse of steroids for these young people not only can cause them disastrous health consequences, but also teaches them how to use abusive, injected drugs. This introduction to abused drugs may be followed later in their lives with other drugs of abuse such as cocaine and heroin, with the threat of AIDS from contaminated needles. In my estimation, this is an intolerable situation, especially because of the disastrous impact on the health and well-being of our Nation's youth. The Anti-Drug Abuse Act amended the Food, Drug, and Cosmetic Act by providing for stricter penalties for possession and distribution of anabolic steroids. To demonstrate our commitment, our field staff together with the Department of Justice, U.S. Customs Service, the IRS, and postal authorities, is strengthening its surveillance efforts, utilizing a variety of sophisticated equipment, eliciting information from known users, and reviewing subpoenaed records. These investigations have led to the identification of eight clandestine manufacturing operations and the seizure of over $12 million worth of illegal drugs. Outreach efforts targeted at users and public health education activities are being increased as well.

FDA is participating in an overall Public Health Service review of all of our activities related to drug abuse, and we are committed to doing whatever we can to combat this threat to our nation.

## BIOTECHNOLOGY

I would now like to turn to the future, and some of the challenges ahead of us. I believe that the burgeoning field of biotechnology holds enormous potential for the development of new products in a variety of areas, especially in medicine, food, and the environment. As Commissioner, and as one who has spent 20 years doing research in this field, I believe that biotechnology research and development deserves our special attention, not just for its potential in medical science but also for its pivotal role in America's economic competitiveness.

In FDA alone, we have approved over 300 biotechnology products, and 600 more are in the pipeline. Cancer is the number one target of biotech products. Just recently, for example, researchers at the National Cancer Institute, in collaboration with scientists at Johns Hopkins, reported encouraging results of a new screening technique for lung cancer, currently the deadliest of all cancers. The technique uses genetically engineered antibodies to detect small changes in cells long before lung cancer appears. Other new products in the pipeline include interferons to treat herpes, genital warts and certain types of cancer; and erthyropoietins to treat chronic anemia.

Biotechnology has also made a major contribution to our war against AIDS. In a very short time, we have been able to understand much of the genetic complexity of this terrible virus and have begun to design new agents that might inhibit unique portions of the virus's function. Moreover, all our hopes for an effective vaccine now center around biotechnology products.

We are in the midst of a biomedical revolution that promises to change the face of medicine forever. The new biotechnology especially will have a large impact on the discovery and development of new therapeutic agents as well as on the ways in which we regard our foods and other health products. Such change demands that we leave behind many of our old ideas of doing business and find new ways to work together. We must strengthen the partnership among the academic community, industry, and government. We must pool resources and work together more effectively, so that we can keep pace with developing technology to speed the transfer of biotechnology research into marketable human therapeutics.

FDA is embarking upon major initiatives in biotechnology that emphasize preparations for meeting the scientific challenges and ensuring the promised benefits of biotechnology products. These initiatives address the major barriers to fully realizing the benefits of the products of biotechnological innovation. In this regard, FDA is pursuing a "user-friendly" approach to regulation, as well as concerted efforts to recruit and retain the necessary scientific/medical expertise.

Many of the firms developing innovative, new biotechnology products are small and lack experience with FDA's review process; further, many of these firms do not have the resources necessary to sustain themselves through a protracted approval process before they market their products. A "user friendly" approach to regulation requires that FDA become more involved with these firms at the outset to guide them through the regulatory process. Particularly where new technologies are involved, a clear understanding of FDA's regulatory requirements—especially at the earlier pre-clinical and clinical stages of development—facilitates proper documentation as well as product development and review. Also, many new foods do not require premarket approval and must be examined for safety after they reach the marketplace.

I am convinced that an in-depth knowledge of a scientific field enables product reviewers to conduct quality reviews promptly, maintain appropriate safety standards, and give sponsors good advice. One barrier to the production of innovative biotechnology products is the relatively small cadre of scientific experts employed by the Federal Government who can provide efficient and timely reviews of these applications. We are dedicated to enhancing our position in this field and to preparing our staff to respond to the challenge.

In support of biotechnological initiatives within FDA in 1990, our budget requests a total increase of $14.5 million. I believe that the need for investment of resources at this juncture is critical.

In the food safety area we know that approximately 155 firms are currently engaged in over 400 projects on food related applications of aspects of biotechnology. Approximately 46 percent of these are related to food processing and another 4 percent are related to food safety diagnostic aids. Among the food projects underway are three types designed to develop; (1) new food processing enzymes, colors, and sweeteners; (2) genetically modified plants that have increased resistance to pests and herbicides as well as improved crop yields and enhanced nutrient quality; and (3) genetic improvements in food producing animals. As applications of biotechnology to food production and processing become more technologically feasible, these applications are likely to increase manyfold within the next several years.

Within the total of $14.5 million, FDA is requesting an increase of $2.5 million to accelerate implementation of the cooperative academia, industry, and government food safety research program with the Illinois Institute of Technology, where a National Center for Food Safety and Technology is being established. The rapid evolution and use of new technologies in the food industry is far outpacing the body of scientific knowledge with which to verify the effect of these technologies on the safety, quality, and wholesomeness of the food supply. Rapid assimilation of innovative technologies in processing, packaging, and production of foods and ingredients into the food industry has created an immense need for expertise and knowledge in all aspects of food science and technology, including specialized areas such as biotechnology. FDA needs expertise and knowledge with which to build compliance strategies and develop inspection techniques designed to keep pace with development and use of technologies in the industry. These resources will allow FDA to begin to build the scientific expertise and technical capability required to evaluate the safety and wholesomeness of new foods, food processes and technologies as they begin to impact consumers.

FDA is constantly seeking to improve the speed and accuracy of its analytical methodologies for detecting bacterial contaminants in foods. The need to have more rapid methods for these organisms has been amply demonstrated in the past several years by the incidents of illness and death linked to food-borne pathogens, especially *Listeria* and *Salmonella*. While agency research has produced gene probes for several important pathogens and there are commercially available probes for others, there are numerous foodborne pathogens for which effective probes do not exist. We are requesting an increase of $2.7 million for expanded research related to biotechnology which offers the best hope for developing simpler, faster, and more precise microanalytical methods for a broad spectrum of potentially hazardous bacterial contaminants.

The annual receipt of INDs for biological products derived from new biotechnology techniques has risen from 36 in 1983 to a total of 156 in 1988, an increase of over 300 percent. In addition, more than 50 applications for new drugs involving products of increased product complexity derived from biotechnology, are under review in the drug program. FDA is requesting an increase of $5.2 million to strengthen our capacity in biotechnology as it applies to maintaining a timely transmission from the laboratory to the marketplace of developing human drug and biologic therapies and products.

Interest has increased in the development of transgenic animals, novel drug delivery systems, and use of animals as production entities for drug or biological products. A number of veterinary biotechnology projects have been identified as being currently under way in industry. Leading project areas include vaccines, growth hormones, and a wide assortment of probes and vectors to diagnose and treat animal disease. Many of the firms active in veterinary biotechnology have diversified into both disease and growth/nutrition. We are requesting an increase of $1 million to improve our base of scientific knowledge in biotechnology applied to the safety of food derived from animals as well as animal drug research.

While FDA has made great strides in expediting new device review, we are concerned about our ability to sustain this progress in the face of increasingly complex product developments stemming from advances in biotechnology. To strengthen our science base, primarily in the life sciences area of biotechnology, FDA is requesting an increase of $1.9 million in the area of biosensors, and research on materials for artificial organs. These increases are necessary in order for FDA to provide a timely review of device applications which employ such technological advances.

At NCTR, biotechnology has created the need for more sophisticated knowledge and methodology to keep pace with new scientific methods, techniques and equipment that are emerging at an accelerated rate. FDA is requesting an increase of $1 million for specific efforts at NCTR to define metabolic, genetic, and morphological changes at the subcellular and molecular levels, enhancing the base of scientific knowledge upon which FDA and other regulatory agencies rely when setting or establishing exposure standards and defining food and drug safety.

## SOUND NUTRITION FOR A HEALTHY AMERICA

The very food that we eat can greatly influence our health. FDA's activities span a number of fields that impact on our lives. We American's are fortunate to have the safest, most abundant, and most diverse food supply in the world. Our concern is to make a safe food supply even safer, as the American public has every right to expect.

### *Food Labeling*

The food label has traditionally been an important source of information about foods. In addition to the mandatory information (such as product name, manufacturer's name and address, ingredient list, net weight, etc.) required on food labels, many products contain optional information, including nutrition labeling to inform the consumer of the health related characteristics of the product.

The past several years have seen some marked changes in perceptions about the role of the diet in promoting health and preventing disease. In the past the main focus on the nutritional characteristics of food has been on their nutrient (especially vitamin and mineral) content. The focus now has shifted to consideration of the role of major components of food (cholesterol, saturated fat, and sodium, for example) in exacerbating or ameliorating disease conditions. In the past few years, reports such as "The Surgeon General's Report on Nutrition and Health" and the recently released National Academy of Sciences report, "Diet and Health, Implications for Reducing Chronic Disease Risk", have emphasized the importance of diet in reducing the risk of major chronic diseases, including heart disease, cancer, and hypertension.

FDA is a major contributor to programs providing information about good diet and health to the consuming public and the health professional community. This information is an important part of FDA's role to aid consumers in understanding the relationship between diet and health and enabling them to make better dietary choices. The Agency is working to develop food labeling programs which will carry our role into the future.

Currently the agency is completing its rulemaking procedure that would encourage cholesterol and fatty acid labeling of foods, by defining descriptors of cholesterol content of food, and by removing some of the restrictive language in the current cholesterol labeling regulation.

We are pursuing rulemaking to permit health messages on food labeling. The proposal for health messages represents a dramatic change from our traditional focus of providing nutrient or ingredient information in a uniform format to facilitate identification of nutrient content or product comparisons.

We are also planning a rulemaking comparable to cholesterol labeling, aimed at defining descriptors of fatty acid content of food. Another ongoing project is resolution of issues relevant to fiber declaration on the food label.

The Agency will be working with other agencies within the Department, the Department of Agriculture, consumers, industry and academia on a comprehensive review of food labeling to develop the appropriate types of food labels that will aid consumers in the 90's.

## OTHER PUBLIC HEALTH ISSUES

### *Salmonella in Eggs*

Often the nation is confronted unexpectedly with new problems from "old bugs". The recent identification of salmonella enteritidis in eggs is a good example of this dilemma. The Food and Drug Administration and the Department of Agriculture have been working to prevent the spread of a serious illness from eggs. Since 1985 over 6,800 illnesses and 24 deaths have been attributed to Salmonella enteritidis from clean uncracked grade "A" table eggs. European countries, particularly Great Britain, are reporting similar problems.

Since August 1988 a "voluntary model plan" has been distributed for use by states and the poultry industry in controlling the presence of salmonella enteritidis in shell eggs. This document was drafted by the Northeast Council on Avian Diseases and jointly accepted by the FDA and USDA. It has been amended and reissued several times since. In addition to the plan, which involves testing of poultry flocks, consumers have been warned by USDA that especially high risk groups such as the very young, the elderly, pregnant women, and those with weakened immune systems should avoid raw eggs and products made with raw eggs. Consumers also are warned to use only clean eggs with shells that are intact, to keep eggs refrigerated, and to wash hands before handling eggs.

FDA is reviewing whether it would be appropriate under the Public Health Service Act to mandate implementation of the model program in states not voluntarily adopting it. We are preparing model code interpretations and planning field surveillance activities to monitor the marketplace. Meanwhile FDA, USDA, and the Centers for Disease Control are participating in research activities which seek answers to the many questions surrounding this public health problem. We believe additional research will probably be necessary to deal with this problem over the long run.

*Import Activities*

Our regulatory scheme in the United States is intended to assure a level playing field so full competition can occur, and the consuming public can benefit. Food grown and processed in this country is subject to FDA's regulations governing good manufacturing practices, and strong quality control requirements. Periodic inspections help assure compliance with the law. But to maintain a level playing field, we must also look at imported products that are not processed under FDA regulation and inspection.

FDA has aggressively taken on the problem of protecting the public from potentially hazardous, unwholesome or insanitary foods and other products, such as ceramic food ware, which are imported to this country in increasing volume each year. With the volume of FDA regulated import entries approaching 1½ million entries annually, we are faced with an enormous enforcement problem. In recent years we have devoted increased resources to the import problem and taken steps to improve our efficiency. These include targeting our resources on problem products and automating our procedures and paperwork. The agency is currently devoting more than 600 staff years to imports, an increase of 48% from 5 years ago. This effort is paying off. In 1988 we were able to examine over 78,000 import shipments compared to 50,000 just 3 years earlier. Our efforts resulted in over 25,000 detentions in 1988, which was an increase of 52% since 1985.

Our future plans in import enforcement are many. We are moving toward more automation—which also involves an eventual interface with the U.S. Customs Service and their automated import system. We also plan to strengthen our relationship with foreign governments to stop the flow of poor quality imported goods at the source, improve field and headquarters communications capabilities, and improve our operational efficiencies in import inspectional oversight.

*Seafood*

Fish is becoming an increasingly important part of the American diet. In 1987, U.S. consumers ate more seafood than ever—15.4 pounds per capita—up 25 percent from 1982. Unlike chickens and cattle which are grown in a controlled environment on a regimented diet, the fish in the sea swim freely in a vast, uncontrolled environment. The situation for seafood is a growing concern to the agency, particularly that for imported seafood. Close to 65 percent of all seafood consumed in the U.S. is imported from a total of 141 countries. While our reliance on imported seafood has been increasing, the quality of imported seafood, however, is a continuing concern. In 1988 FDA sampled less than 3% of all seafood imported into this country. By effective use of our limited resources devoted to seafood, FDA was able to detain 3,585 shipments of seafood products valued at over $120 million.

Decomposition, microbial contamination, and filth are constant problems in imported shrimp. The biological hazards with seafood are a significant health threat. The major hazards include naturally-occurring toxins and microorganisms. Other hazards result from poor handling and processing of products. An example of such hazard is *Vibrio Vulnificus*, a free-living marine bacterium which causes a septicimia with a 50 percent fatality rate in persons with cirrhosis or other liver disease. Another example of the latter is the unfortunate eight illnesses and one death resulting from the consumption of "kapchunka", an uneviscerated whitefish product, in New York last year. Both New York and FDA have taken actions to prohibit any further production of this inherently hazardous product. Furthermore, during the coming year, the agency will be evaluating the current practices of production of various smoked fish products with the intent of promulgating smoked fish Good Manufacturing Practice regulations.

Seafood products which require no heating are a particular health concern. We have found *Clostridium botulinum* contamination in refrigerated crabmeat. We also have found *Listeria monocytogenes* and *Vibrio vulnificus* contamination in crabmeat. Both of these can cause serious illness or death. There has been a continuing problem of bacterial contamination of cooked, ready-to-eat seafoods which led us to hold a national meeting with industry in December, 1988. Follow-up regional meetings with industry to confront this problem are being held from January through April of this year.

Our research efforts in seafood contamination will be looking at survival characteristics of pathogens, routes of contamination and mechanisms of pathogenicity of those problem organisms. We continue to develop improved analytical methodologies which will improve the effectiveness of our surveillance efforts. These include development of synthetic gene probes for detection of bacterial pathogens and new methods for rapid screening for contaminants.

FDA will be reviewing its seafood activities, including domestic inspection practices and import sampling, surveillance, research, and consumer education, to assure that the agency is prepared to deal effectively with these issues. FDA will also work with the National Academy of Sciences and with the National Marine Fisheries Service (NMFS) to develop coordinated research efforts. The agency will also continue to work closely with NMFS to integrate research programs on seafood safety and to better coordinate surveillance and education activities.

*Aquaculture*

Another topic regarding fish is that of aquaculture. Although still in its infancy in terms of technology, aquaculture is a rapidly expanding industry in the United States and around the world. A rapidly increasing percent of the fish we consume is from domestic and foreign commercial fish farms where drugs are often administered for therapeutic purposes, for disease prevention, to increase production efficiency, and to improve product quality. FDA must be vigilant to assure that these fish are free of harmful residues which, if not carefully monitored, could present a threat to human health.

FDA has been actively involved in the development and approval of drugs for use in aquatic species through its liaison with the Interregional-4 Program which is a research service for agriculture consisting of Federal and state agencies, participation on the Intergovernmental Joint Aquaculture Committee, and various other public and private sector initiatives. In addition, the agency has been involved in survey programs looking at feed mill operations serving fish production operations as well as the "fish farms" themselves. FDA will work to develop a comprehensive knowledge base covering the biology of aquaculture systems to allow us to develop education programs and to provide technical assistance in the future in this rapidly growing industry to assure the safe and effective use of animal drugs and feeds within this industry.

*Pesticides*

During the past 30 years, the variety and usage of agricultural pesticides have increased both in the United States and worldwide. Concurrently, public interest and concerns also have grown about the influence of pesticide residues on the safety of the U.S. food supply. Agricultural use of pesticides can be expected to result in residues in or on food and feed.

Since it is recognized that pesticides are needed to produce an economical food supply of high quality, the pesticide regulatory system in the U.S. is designed to ensure that the remaining residues do not constitute an unacceptable health risk. The system is not designed to ensure that foods will be totally free of all pesticide residues. Unfortunately, we have recently seen major and sudden shifts in consumption based on the perception of risk that was not scientifically documented. It is important to have an adequate data base to evaluate such situations.

The Environmental Protection Agency, the Department of Agriculture, and FDA have joint responsibility in the area of pesticides. EPA registers or approves the use of pesticides and establishes tolerances, if use of a pesticide may lead to residues in food. A tolerance is the maximum amount of a residue expected in a food when a pesticide chemical is used according to the label directions, provided that the level does not present an unacceptable health risk. With the exception of meat and poultry, for which USDA is responsible, FDA is charged with enforcing tolerances on food shipped in interstate commerce, and determines the incidence and levels of pesticide residues in domestically produced and imported foods.

When violative import samples are discovered for a particular commodity from a particular shipper or country, a certification requirement is invoked. While the requirement is in effect, the importer is responsible for having each shipment of the commodity in question analyzed and certified by a private laboratory to be free of violative levels of the residues in question. We review the certification reports to ensure the adequacy of the analysis.

The other major approach to monitoring used by FDA is the Total Diet Study. Also known as the Market Basket Study, this effort is designed to estimate the dietary intakes of pesticide residues by 8 age/sex groups, from infants to senior citizens. FDA personnel purchase foods from local supermarkets or grocery stores, just as a shopper would do. Each market basket contains 235 individual food items that have been chosen to represent the diet of the U.S. population. The foods are prepared table-ready and then are analyzed for pesticide residues. This provides an estimate of the actual amount of pesticide residues consumed in the foods as they are usually eaten.

Data from over 25 years of FDA monitoring have shown that above-tolerance residues are rarely found, indicating that pesticide chemicals are generally used according to label directions. A total of 14,492 samples of domestically produced and imported food from 79 countries were analyzed for pesticide residue in 1987. No residues were found in over 50 percent of the samples. When residues were found, they were usually at low levels and rarely exceeded tolerances. Most violative residues were found in commodities were a tolerance had not been established for a specific pesticide/commodity combination. Less than one percent of the 14,492 samples contained residues that exceeded regulatory limits. These findings are supported by the Total Diet Study data, which show that the dietary intake of pesticide residues is only a small fraction of acceptable limits.

Coordination with state authorities in the development of cooperative sampling plans and information exchanges results in more effective coverage of the domestic food supply and follow-up to correct apparent emerging residue problems. FDA is also supporting, via contract, a system to compile and summarize data on foods analyzed by states for pesticides and industrial chemicals. In the system, known as "Foodcontam", results for about 15,000 samples were received in 1987 from five states.

To improve FDA's ability to monitor imported foods, particularly fresh fruits and vegetables, FDA purchased in 1986 the Battelle World Agrochemical Data Bank, a computerized data base containing information on foreign pesticide use. Aided by this information, FDA is better targeting its monitoring toward pesticides more likely to have been used on a particular crop in a particular country.

In addition, we continue to carry out research on analytical methods to detect and quantify pesticide residues. FDA concentrates on expanding existing multi-residue methods to additional pesticides or extending them to different food/feed commodities. At present one of our primary needs in this area is to develop improved and more extensive multiresidue methods.

Work to implement the provisions of the Pesticide Monitoring Improvements Act is underway. Letters have been written to 37 countries concerning possible cooperative agreements. Meetings with representatives of several foreign countries have been held and several more have been scheduled. Thus far, the countries met with seem willing to cooperate. Also, FDA is currently developing computer programs to address the data summarization provisions.

*Sulfa in Milk*

Another public health concern is the problem of sulfamethazine in milk. The Agency was successful in developing a new and more sensitive method of detecting very small amounts of sulfamethazine in milk. We have also done studies at our National Center for Toxicological Research which have shown that the drug might be a carcinogen in test animals. Using that information we conducted a survey involving 49 samples of milk from the 10 largest cities in the U.S. Thirty-six (74 percent) of the samples were positive for sulfa-methazine and 5 (10 percent) of those were above 10 parts per billion (ppb).

These efforts have paid off. By the end of 1988 only 247 of 4,887 samples (5 percent) showed any residue. only 54 (1.1 percent) were above 10 parts per billion, the lowest level we can reliably confirm.

*Tissue Residue Surveillance*

The incidence of illegal drug and chemical residues in edible animal tissues is becoming increasingly important, as evidenced by the presence of violative levels of sulfamethazine in swine. An example is a recent shipment of American pork found in Japan to contain illegal residues of sulfamethazine. This has resulted in increased surveillance of American pork by the Japanese government. As a result of continued findings of this residue in pork, the USDA has implemented more stringent sampling procedures resulting in a heavier burden on the FDA. Under a Memorandum of Understanding, the FDA is responsible for identifying the causes of residue violations and attempting to prevent recurrences. In addition, the FDA has agreed to conduct follow-up investigations and pursue regulatory actions against establishments marketing food animals illegally treated with drugs. The Agency intends to continue to work very closely with the USDA and with the States on this problem. Our 1990 request includes an increase of $180,000 to enable FDA to expand its use of contracts with the States to conduct investigations.

### *Generic Animal Drug Legislation*

A new workload for FDA during 1989 and 1990 will be implementation of the recent Generic Animal Drug and Patent Term Restoration Act. The agency expects to review and process approximately 150 ANADAs and approximately 75 pre-ANADA petitions within the first year. Although this legislation provides that applications for generic animal drugs will not be approved before January 1, 1991, FDA will be receiving applications prior to that time.

We are already working on the initial implementation of this new law, including working with the industry to develop guidelines for the applications they will be submitting. As in the case of human generic drugs, this law can have a substantial economic benefit by encouraging price competition for those animal drugs that will be eligible for generic production, while at the same time encouraging innovation to develop new animal drugs.

## FDA AND ACADEMIA

### *Recruitment and Retention of Staff*

The responsibility for ensuring that the products FDA regulates and approves are safe and effective rests with the scientists and physicians who evaluate the product applications. It is absolutely essential, therefore, that we recruit the best scientific and management talent available. This has been extremely difficult due to pay and benefit disparity, competitiveness with private industry, delays in the Federal hiring process, and scarcity of available candidates who have the necessary training and knowledge.

We are making some headway in our recruitment program. In June, 1988, we established the position of recruitment manager. This person has responsibility for coordinating and managing the process of recruiting new physicians into the Agency and the establishment of a wide network of contacts. The recruitment program involves paid advertisements placed in medical journals, contacts made by the current staff, and college and university site visits. We are also continuing to explore innovative mechanisms of obtaining help in the review process, such as our recent establishment of a fellowship program with Children's Hospital, under which physicians who work there also spend some of their time assisting FDA in reviewing new drug applications.

It is crucial in my estimation for FDA to forge a stronger partnership with the academic community if we are to keep pace with the advances of biomedical technology, not only in our research efforts but in the quantity and quality of our staff expertise to evaluate new therapeutic discoveries.

### *Facilities*

I would like to discuss briefly the agency's facilities situation. We are making significant progress in improving our field laboratory facilities. We recently moved our Seattle laboratories into a new facility built especially for FDA. In recent years we have also obtained new or expanded facilities in Chicago, Atlanta, and Denver, and plans are underway to replace our obsolete facilities in Los Angeles and Dallas.

With the building funds provided in our 1989 appropriation, we are working with the facilities staff of NIH to complete the site planning that is necessary before full design and construction can begin on the building which will house our expanding work on AIDS located at the NIH campus. We are grateful for this solution to one of our problems. We have been reevaluating our long-range facilities needs, and, as we were directed by the Senate Committee in its report on this year's appropriations, we are working with GSA on options for consolidating our Washington area activities.

Even as we are seeking long-range solutions to our facilities needs, we must still maintain our older facilities—our ability to conduct sound regulatory research and testing depends upon adequately functioning facilities and equipment. Our request for 1990 includes $1.5 million for facility maintenance and laboratory renovation projects. This amount is less than 1% of the replacement value of FDA's facilities.

## SUMMARY OF BUDGET REQUEST

In conclusion, I would like to summarize several points about our 1990 budget request.

Excluding our separate request of $56.9 million for AIDS funding as part of the consolidated program of the Public Health Service, our total request for 1990 is for $512.8 million, of which $100 million would be derived from collections of proposed product review charges. This is an increase of $39.3 million from 1989 and includes necessary funds to provide for increased payroll and other operating costs. In addition, our request includes program increases that I have already described in this statement. To summarize, increases of $14.5 million for biotechnology, $3.1 million for new drug and device review, $600,000 for increased surveillance of imported foods, and $180,000 for investigations of sulfa residues are requested. No increases in staff years are requested for 1990, except for our AIDS program where we are requesting a total staffing level of 506 FTEs, an increase of 183 staff-years from 1989.

We are transmitting a separate legislative proposal to provide the Agency with the authority to charge user fees for reviewing manufacturers' applications to market new drugs and medical devices, biological products, and food additives. Our activities in these areas clearly benefit industry at the same time that they protect consumers, and so we believe these charges are appropriate. As I have stated in the past, I personally believe that if someone benefits from government action, they should pay the government. I believe that for all of FDA product approval activities, there is a sound basis for expecting product sponsors to pay the government's costs. We are fully aware of the committee's past guidance on user charges, and that is why we are transmitting a separate legislative proposal to allow for full congressional review of the issue.

Mr. Chairman, this concludes my prepared remarks. I would be happy to respond to any questions you or the other members of the Committee might have.

---

## BIOGRAPHICAL SKETCHES

### DR. FRANK E. YOUNG

Frank E. Young, M.D., Ph.D., Commissioner of the Food and Drug Administration, was born in Mineola, New York in 1931 and educated in Union College, the Medical Center of the State University of New York (M.D., Cum Laude) and Case Western Reserve University (Ph.D.). After internship and residency in Pathology in University Hospitals in Cleveland, Ohio, Dr. Young served on the Faculty of Case Western Reserve University (1962-1965), Scripps Clinic and Research Foundation (1965-1970) and University of California at San Diego (1967-1970). In 1970 he became Chairman of the Department of Microbiology and Professor of Microbiology, of Pathology and of Radiation Biology and Biophysics at the University of Rochester, Rochester, New York. Concurrently he directed the Clinical Microbiology Laboratories for Strong Memorial Hospital and the County of Monroe. Subsequently he was appointed Dean of the School of Medicine and Dentistry and Director of the Medical Center of the University of Rochester (1979-1984) and Vice President for Health Affairs (1981-1984). Additionally he served as Chairman of the Executive Hospital Committee of Strong Memorial Hospital (1979-1984), Chairman of the Medical Advisory Committee, Monroe Community Hospital (1979-1984) and Pathologist, Strong Memorial Hospital (1974-1984).

While Commissioner of FDA Dr. Young participated as a Member of the U.S. Delegation to the World Health Assembly in Geneva, Switzerland, 1985; lead the U.S. Delegation to the Third U.S./Israeli Symposium on Health, Jerusalem, 1985; participated in the Conference of Experts on the Rational Use of Drugs, Nairobi, Kenya, 1985; and Headed the State Department Delegation to the Ad Hoc Biotechnology Working Group of the Organization of Economic Cooperation Development, Paris, France, 1985, which resulted in the negotiation of an international agreement in Biotechnology. Dr. Young's area of research is biotechnology including the fundamental genetics of pathogenic and non-pathogenic bacteria. These studies were supported by grants from the National Institutes of Health, National Science Foundation, American Cancer Society, and industry. He has received numerous awards including membership in the Institute of Medicine of the National Academy of Sciences, the Edward Mott Moore Award for the outstanding physician from the Monroe County Medical Society, honorary degrees from Roberts Wesleyan College (Doctor of Science, 1983), Houghton College (Doctor of Science, 1984), State University of New York (Doctor of Science, 1986) and was a member of ten scientific societies. He has served on NIH advisory committees, including the Recombinant DNA Advisory Committee (1979-1980), the Microbiology Training Study Section (1972-1973), the Bacteriology and Mycology Study Section (1975-1979), and was Chairman of the Microbial Genetics Study Section (1981-1982). He also was a member of the Scientific Advisory Committee for Virology and Cell Biology Study Section of the American Cancer Society (1974-1979).

He and his wife Leanne have five children.

### JAMES S. BENSON

As Acting Deputy Commissioner of the Food and Drug Administration, Mr. Benson's primary responsibilities will be handling the day-to-day affairs of the Agency and planning and implementing the transition activities from Action Plan II to Action Plan III. Mr. Benson will share responsibility with the Commissioner for managing FDA programs to assure industry compliance with the safety and effectiveness standards affecting foods, drugs, cosmetics, medical devices, veterinary products, and radiological products.

Mr. Benson was born in Baltimore on March 23, 1939. He received a B.S. degree in civil engineering from the University of Maryland in 1962 and an M.S. degree in nuclear engineering from the Georgia Institute of Technology in 1967.

Mr. Benson served as United States Public Health Service (USPHS) State Assignee to the Wyoming Health Department from 1962 to 1963, as State Assignee to the Georgia Health Department's Radium Management Project from 1963 to 1965, and also served in the USPHS Radioactive Materials Section, Division of Radiological Health from 1965 to 1966. From 1967 to 1970, Mr. Benson was Director of Operations for the Bell and Howell Human Development Institute, and in 1970, was Director for Manpower Programs at the Westinghouse Learning Corporation.

Mr. Benson rejoined the FDA Bureau of Radiological Health in 1971 and was appointed Director, Division of Training and Medical Applications in 1972. He was promoted to Deputy Bureau Director in 1976 and assumed responsibilities as Deputy Director, Center for Devices and Radiological Health in 1983.

As Deputy Director of the Center for Devices and Radiological Health, Mr. Benson conceived of and managed an agency-wide analysis of criticisms of the FDA's medical device program. This effort led to a series of policy and procedural reforms that improved the Center's product approval and postmarketing surveillance activities. It also served as an important element in the Commissioner's original action plan for the agency. Mr. Benson also coordinated a national educational program for health professionals and consumers about medical radiation protection. For this achievement, in 1978, he received the FDA Award of Merit, FDA's highest honor award.

In addition to receiving the FDA Award of Merit, Mr. Benson received the PHS Superior Service Award in 1984, and the Commissioner's Special Citation in 1985. Also in 1985, Mr. Benson was awarded the Meritorious Presidential Rank Award, based upon sustained and innovative leadership.

He and his wife Karen, have two children and reside in Rockville, Maryland.

### CHARTS

Senator BURDICK. You have done a good job.

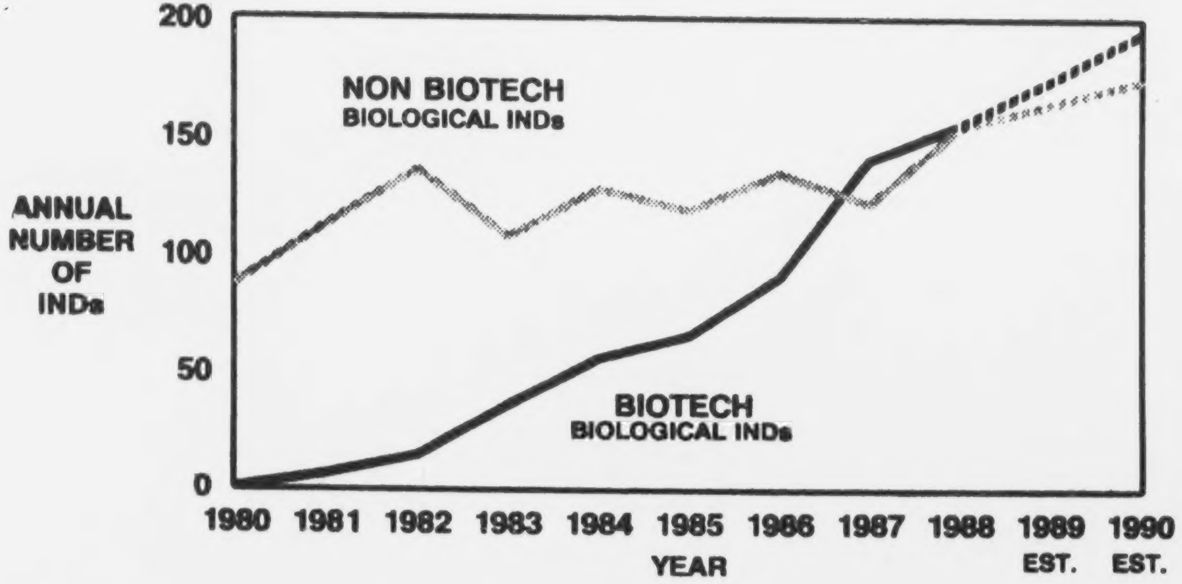
Just a minute, do you have those charts, more or less in smaller form, letter form?

Dr. YOUNG. Yes, I do. I would be happy to put them in for the record. I have them all in front of me on 8 by 10's.

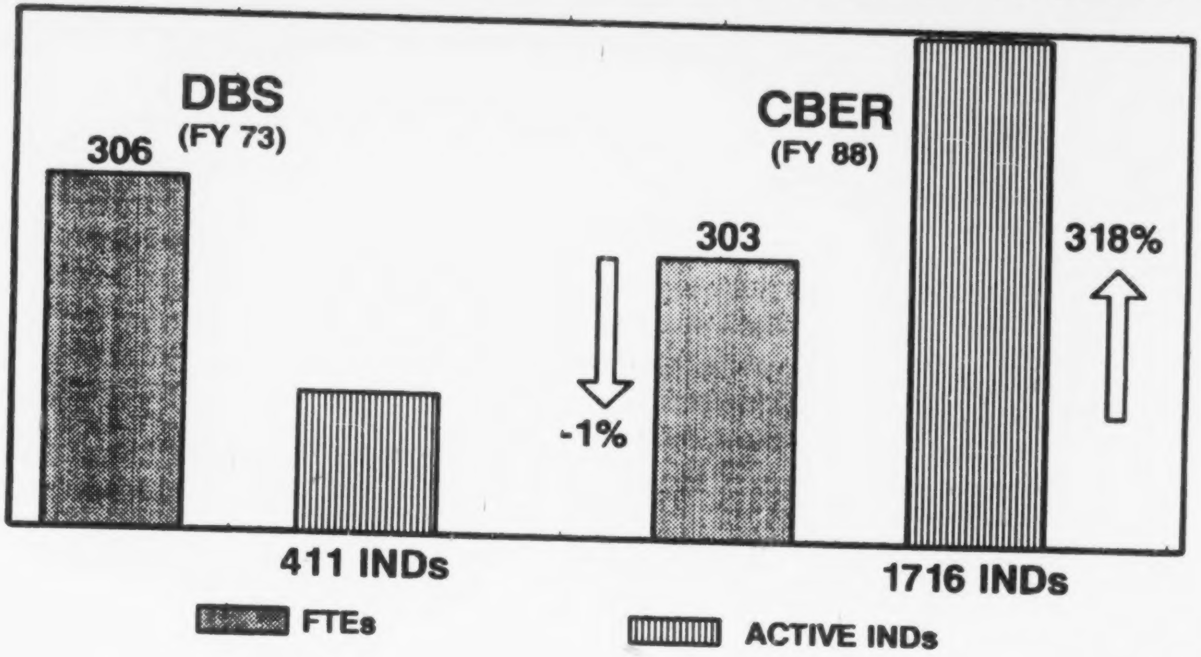
Senator BURDICK. Fine. Fine.

[The charts follow:]

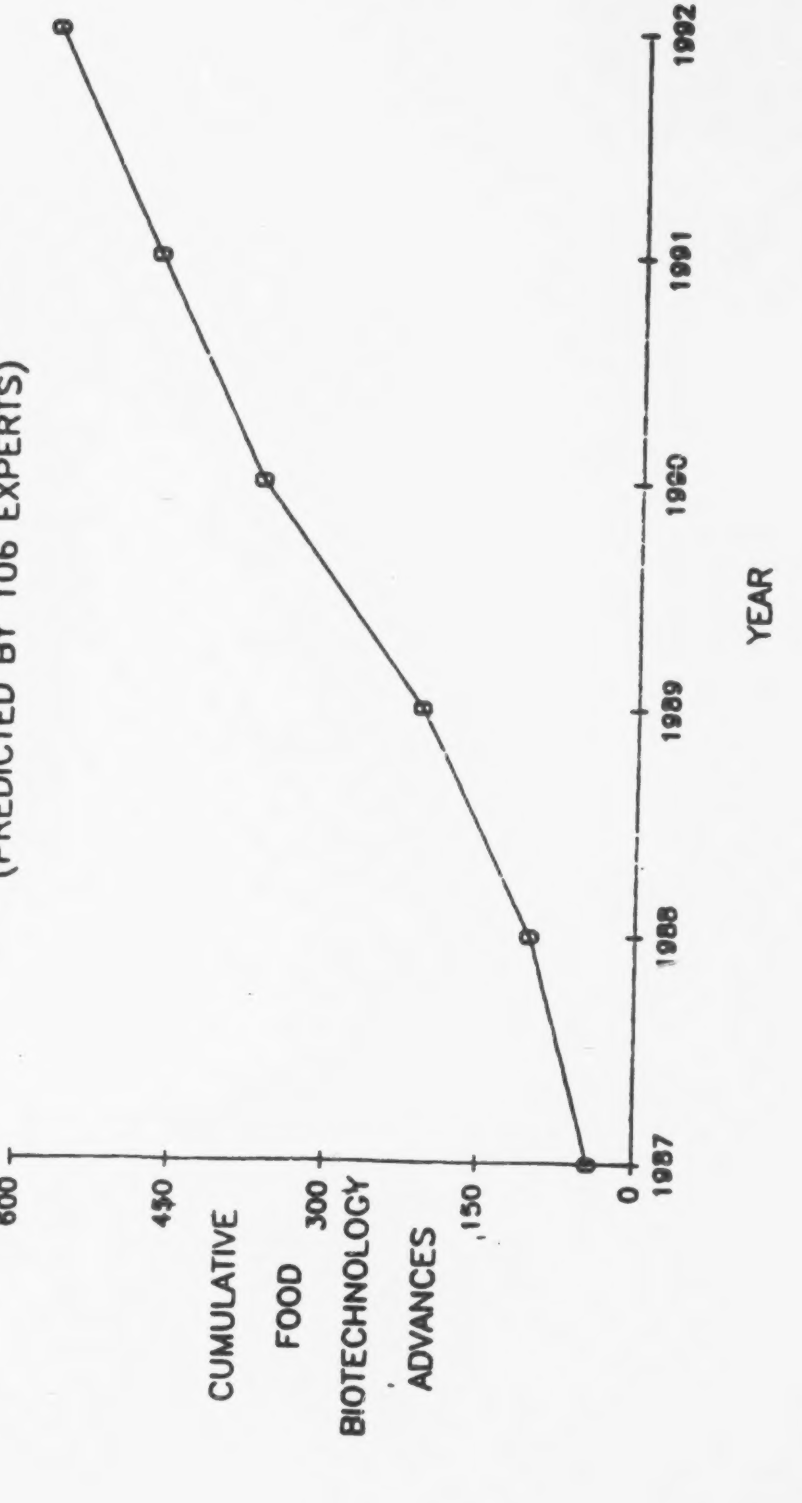
# SUBMISSIONS OF BIOLOGICAL INDs

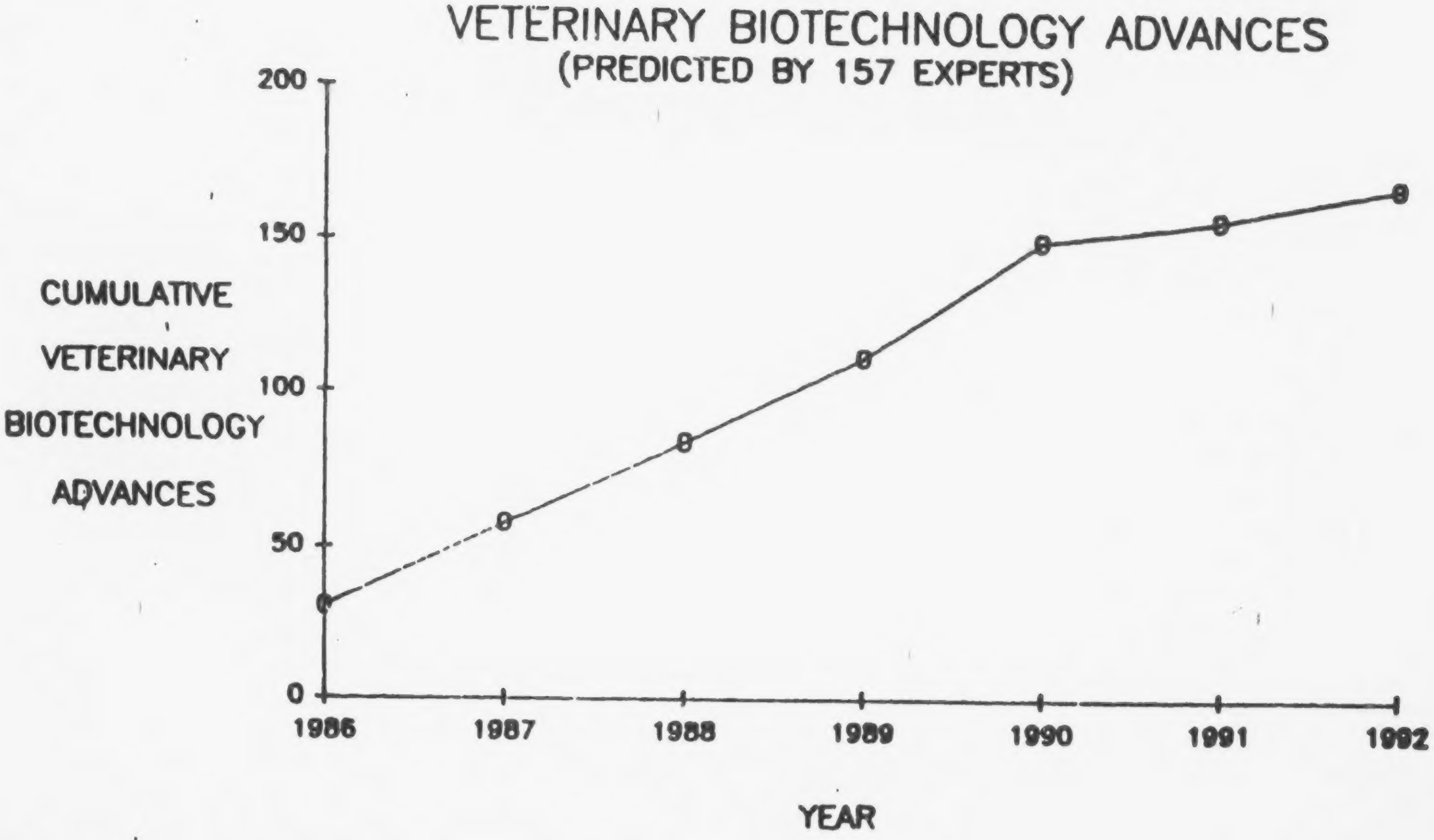


# BIOLOGICS NON-AIDS INDs



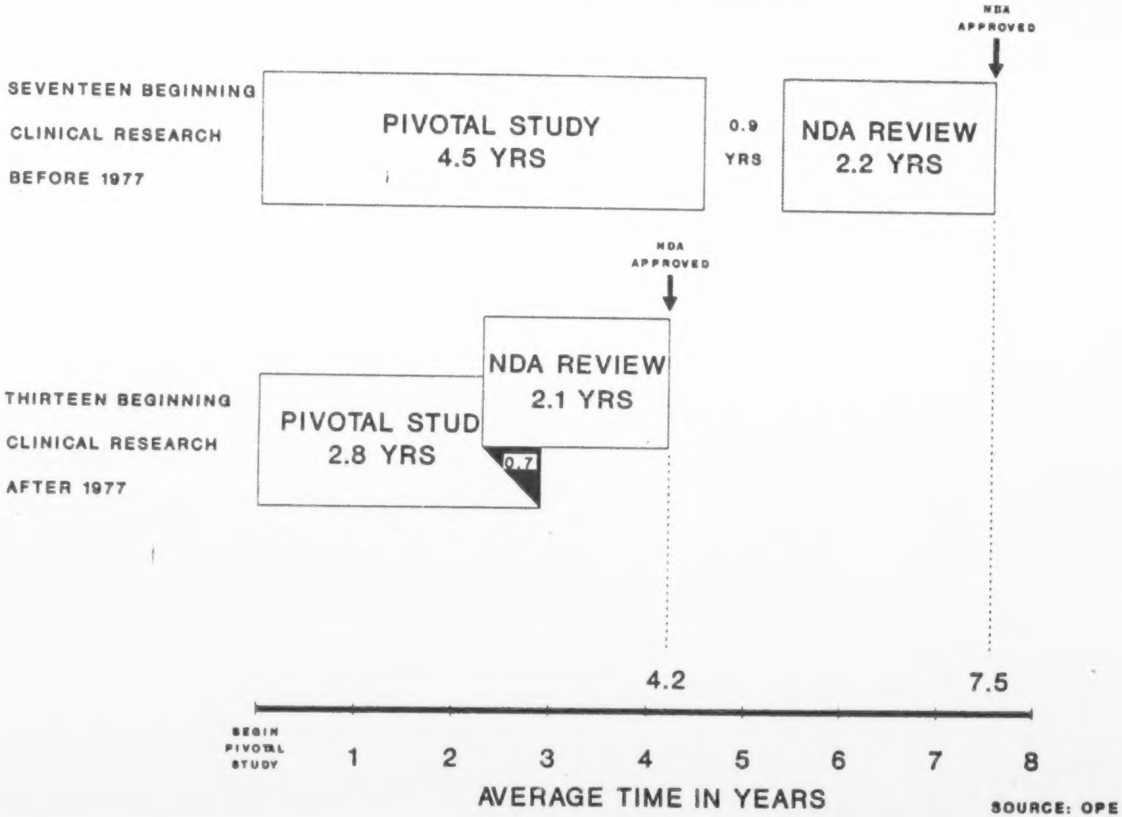
FOOD BIOTECHNOLOGY ADVANCES
(PREDICTED BY 106 EXPERTS)





VETERINARY BIOTECHNOLOGY ADVANCES
(PREDICTED BY 157 EXPERTS)

# 30 THERAPIES FOR LIFE-THREATENING CONDITIONS
## (Approved 1/1/80-6/30/88)



SOURCE: OPE

Senator BURDICK. Senator Kasten, you can go first.

Senator KASTEN. Mr. Chairman, thank you.

First of all, Dr. Young, welcome. And congratulations on a job that, I think all of agree, you are doing marvelously well. And the work and the effort that you are making are greatly appreciated. And I thank you for the job that you are doing.

Dr. YOUNG. Well, without these able people, Sharon Holston, who is on my left and deals with management, and Frank Claunts, who deals with budget, my deputy, Jim Benson, and general counsel, Tom Scarlett, and many of the center directors, it would be impossible, because it is the Agency that really does the job, Senator.

Senator KASTEN. And, second, I appreciate what you just said about biotechnology. I was in Wisconsin last week. One of the key issues that we are working with in our State right now is biotechnology.

Dr. YOUNG. Yes.

Senator KASTEN. As the chairman and other members of the subcommittee know, because a couple of weeks ago when the Cooperative State Research Service was before this subcommittee, we talked about the feasibility study that is now going on for a new biotechnology research center at the University of Wisconsin in Madison.

We are working back and forth, the people are out there right now. And depending on how this feasibility study works out, we hope that we will be in a position of having a final recommendation sometime in the middle of summer; and that we might work to put some dollars into the agriculture appropriations bill, even this year, as we work on a partnership between the State and the Federal Government.

Dr. YOUNG. It is very important. I know your great university well, I have lectured in it many times.

Senator KASTEN. So, I, for one think that certainly the committee, based on our attitude toward biotechnology over the past, will support the increases that you are talking about in your budget in this area.

I agree with you completely about the importance of biotechnology and in particular small business' role.

Dr. YOUNG. Yes.

Senator KASTEN. It is essential to work with small business in biotechnology because it is a new and growing business.

Last week, I was at a conference sponsored by the University of Wisconsin and the Wisconsin Manufacturers and Commerce Group. The conference was oversold. It was a whole group of people that were small people. In certain cases, even though they were in the same State, they really did not know what each other were doing, and did not know of the resources that were available.

So, I think what you are talking about makes lots of sense. And I am going to be working with you, and I look forward to working with you along the general guidelines that you have discussed.

Let me switch to two other subjects very quickly.

## POST-MARKET SURVEILLANCE

It is my understanding that FDA's authority includes post-market review of the efficacy of drugs, of biological products, and also of devices, therapeutic devices.

How is this post-market review actually carried? Specifically, what role should our medical centers play in this process? And would you support an extramural research program to look at the cost/quality effectiveness of drugs, of biological products, and of therapeutics devices?

Dr. YOUNG. I think you have hit on one of the most significant programs in regards to building a partnership between universities and FDA.

When I came down to FDA, I was previously dean of the School of Medicine and Dentistry at the University of Rochester and vice president for Health Affairs.

To me at that time, FDA was a black box. I have gotten to know the inside of that box, I love it. And I am dedicated toward punching holes in that box so that the rest of the academic community can see it.

The best way, I think, is by bringing partnership in two ways. The first is just as you mentioned, the need to get post-market surveillance with sentinel research programs.

I can give you a good example of this. We have just developed a traveling trailer. We would like to back it up if you like even to the Senate building. In it we have the instruments involved in anesthesiology.

It was an interesting hearing that Mr. Dingel had on some of the problems in anesthesia machines. We discussed that 4 percent out of the 2,000 anesthesia-related deaths that occur per year are likely due to machine failure. Most of the others are due to operational problems with the user. And with partnership with the American Society of Anesthesiologists, we built this trailer with machines that have got inborn errors that can be changed by switching different switches on. Anesthesiologists can practice checking the machines and see whether they can debug it.

These kinds of things are part of the partnerships that we are building today with universities.

Second, we would like to begin to look at comparison of therapies. We think this is not done substantially. Now this is a tough thing to do. There is some interest in it in the Public Health Service, interest in the FDA, but I would certainly like to explore that further.

Senator KASTEN. Well, Dr. Young, I look forward to personally working with you, and particularly in this quality control and comparison area. I think that there are a number of things that we might be able to do together.

## FAT LABELING

Let me ask a question on a completely different subject.

The U.S. Cheese Makers Association submitted a petition on February 13 of this year concerning setting standards for labeling reduced-fat cheeses.

There is no current Federal standard of identity for so-called lowfat cheese. And in its absence, States are now being forced to move ahead.

Dr. YOUNG. Yes.

Senator KASTEN. And as States move ahead, they move ahead in different ways. And we could be on the verge of having 50 different standards in 50 different States, and further confusing people.

The industry correctly wants a national standard so that consumers will know exactly what they are buying, and when you have a label that says lowfat on cheese, you know what it is. I support this effort.

What is the status of this February 13 petition? And how quickly do you think we are going to be able to see you move forward with some kind of standard?

Dr. YOUNG. First of all, I think that the total concept of a mandatory, uniform labeling program has arrived. There have been two excellent studies, by the Surgeon General and the National Academy of Sciences. Both have focused on the fact that if you were to do one thing, and one thing alone, in prevention in food, it is lower the fat content of the diet. And I think the move toward a 30-percent fat diet is absolutely right on. And the types of products that you are talking about are key.

We are trying to do two things. One, we are evaluating that petition; we are also trying to get an overall view on how to do a fat regulation.

The cholesterol regulation is coming close, we think, to being brought forward. We are working right now in dealing with the total fat regulation. And the idea that we are exploring is, is it better to do reduced fats in general and cover all of them, or is it better to begin to just do petition by petition.

But, you are absolutely right, a crazy patchwork quilt of overlapping and conflicting regulations makes no sense for the country.

And I will be happy to give you a copy of our action plan phase 3, when it is available, Mr. Chairman. Because, in this, we focus on food safety. And the No. 1 area of it we focus on is food labeling. And we would like to work with you on that.

Senator KASTEN. Well, at least from our point of view, it seems to me that moving forward on an overall approach to lowfat or fat reduction, or whatever, how you are going to be labeling lowfat, no fat, et cetera, that might be right, but it also might take several months, or maybe even years.

Dr. YOUNG. It will take years.

Senator KASTEN. Depending on the timing, I think that you might have to go forward with certain products that are already out there in order to try to avoid setting up this patchwork of State regulations, which has already begun.

Dr. YOUNG. Right.

Senator KASTEN. Because we at the Federal level are not acting. With regard to lowfat cheese, I hope that either the whole process moves forward very quickly, or you are able to move forward in response to this petition.

Dr. YOUNG. Well, I promise you that we will put that on a much faster track than it is on today. We did talk about the total fat program a short time ago, and the cheese very recently. And we will see what we can do to elevate that, but still keep it in harmony with where we are going.

Senator KASTEN. Mr. Chairman, I have two or three other questions I would like to submit for the record. Thank you very much.

And thank you, Dr. Young.

Dr. YOUNG. Thank you.

Senator BURDICK. Senator Cochran.

Senator COCHRAN. Thank you very much, Mr. Chairman.

Mr. Chairman, let me join with the other members of the committee in welcoming Dr. Young. This has been a busy year for the FDA, and already you have been confronted with some very difficult challenges.

I want to commend you for the efforts you have made, and for the leadership you are providing in trying to help assure that our Nation's citizens have wholesome food and that our medical devices and products are safe and fit for the uses for which they were manufactured and sold.

Dr. YOUNG. Thank you.

Senator COCHRAN. It is a big job, and you do not have enough people to do it with. And I know that. This committee, I think, ought to be sensitive to the need to support the efforts that you are called upon to make with adequate funding and resources so that you can fulfill the commitment that I know you feel toward this job and this great country of ours.

I have some questions that I would prefer to submit for the record, and they are not long or burdensome I hope. I thank you for being here and thank you for the job you are doing.

Dr. YOUNG. Thank you very much, Senator. I really appreciate your support and the support of this committee. In those tough hours, it makes it a lot easier to know the unflagging support that you have provided.

This has been a tough year. It has been a very intense year. Regretfully, it is only partially through. And one of the things that we are particularly looking to do is to try to establish a forensic laboratory where we can begin to focus on some of the tampering issues that we have faced, so that we can really predict the effects of certain poisons on products.

Tampering of imported products is coming to the Nation more rapidly than I would have liked to see.

Senator COCHRAN. Mr. Chairman, I would also like to have permission to submit questions to the other witnesses who have appeared in other panels this morning.

Senator BURDICK. As a matter of fact, all Senators will be able to submit questions if they are presented in a timely fashion.

Senator COCHRAN. I am going to hand them to you, Mr. Chairman. [Laughter.]

Senator BURDICK. Senator Bumpers.

Senator BUMPERS. Mr. Chairman, thank you very much.

Dr. Young, I want to add my voice to the love-in that has already taken place here this morning, and state that we are all elated that you are going to be with us, we hope, for at least another 4 years.

Dr. YOUNG. Thank you very much. I am privileged to serve.

Senator **Bumpers**. Well, we all have a great deal of confidence in you, and as Senator Cochran has already said, we wish we did not have budget constraints so we could do a lot more for you.

### CHILEAN GRAPES

Incidentally, I just came back from South America, and you are not quite as popular down there as you are up here. [Laughter.]

Dr. **Young**. It was a tough decision, sir.

Senator **Bumpers**. Well, good. And I have not been to the grocery store since the grapes were put back on the market.

Dr. **Young**. Well, they are back. In fact, I went over to try, before the "Meet the Press" session on Sunday to buy some. And I went to the Giant store, and they said, well, we underestimated, we sold out in the first hour and a half, and never could get another for that day.

Senator **Bumpers**. You know, in your job, Dr. Young, that many people think the Government ought to stay out of everybody's hair and off their backs. But when something like that comes up, they are very pleased they have got somebody looking after their welfare.

It just depends on whose ox is being gored at a particular moment.

### USER FEES

Dr. Young, let me ask you about user fees. The budget recommends a 13-percent cut in your appropriated funds. And they recommend that this cut be made up by user fees.

Now that troubles me. The budget anticipates you can collect $100 million in user fees. And $13 million of that would be collected from medical device manufacturers.

Is that correct?

Dr. **Young**. That is correct, sir.

Senator **Bumpers**. Some of these user fees would be collected from the premarket approval applications or so-called PMA's.

Dr. **Young**. Yes.

Senator **Bumpers**. And there, again, I think that for some big manufacturers, this is not as great a problem. But, $90,000 for some of the smaller and sometimes more innovative device manufacturers, that could mean the difference in submitting an application and not submitting one.

Dr. **Young**. Yes; and it is a fascinating problem. We have two programs with user fees now, one in the field of insulin and colors, where it has worked quite well. The other interestingly, is in the field of freedom of information. I will submit the chart for the record.

[The chart follows:]

## FOOD AND DRUG ADMINISTRATION
## REPORT OF FREEDOM OF INFORMATION ACT INQUIRIES - 1988

1. Total number of FOI requests received: 40,000

2. Percentage of FOI requests received, by requester:

| | | |
|---|---|---|
| Industries | 53% | |
| FOI service companies | 28% | 91% |
| Lawyers | 10% | |
| Private individuals | 2% | |
| Press, including Trade Press | 3% | |
| Hospitals and other health organizations | 1% | |
| Public interest groups | 1% | |
| Others | 2% | |
| | 100% | |

3. Percentage of FOI requests received, by type of record requested:

| | |
|---|---|
| Third party requests | 31% |
| Administrative records from the Office of the Hearing Clerk | 11% |
| Establishment Inspection Reports | 19% |
| Records pertaining to human drugs | 18% |
| Records pertaining to medical devices | 14% |
| Records pertaining to human biologics | 2% |
| Records pertaining to foods | 3% |
| Other records | 2% |
| | 100% |

4. Staff years expended on FOI by organizations:

| Organizational Unit | Staff Years 1988 | Staffyears Projected 1989 | 1990 |
|---|---|---|---|
| Center for Drug Evaluation & Research | 31 | 31 | 31 |
| Center for Biologics Evaluation & Research | 6 | 6 | 6 |
| Associate Commissioner for Public Affairs | 18 | 18 | 18 |
| ORA (includes Field Officers) | 22 | 22 | 22 |
| Center for Food Safety and Applied Nutrition | 16 | 16 | 16 |
| Center for Medical Devices and Radiological Health | 21 | 23 | 24 |
| Center for Veterinary Medicine | 1 | 1 | 1 |
| Other FDA | 10 | 8 | 8 |
| | 125 | 125 | 126 |

5. Funds related to FOI activities:

| Cost to FDA | Receipts in Fees |
|---|---|
| $5,600,000 | $451,000 (An increase of $95,000 over 1987 receipts) |

Dr. YOUNG. There, we only collect about one-tenth of the costs, so we are subsidizing by about $5 million, or almost 126 positions, when we only received 10 positions for that activity.

Now, I am not saying that that is not an important activity, but the portion that is of concern, I think, for the Nation, is whether that amount of user fees would be collected. We have never had anything of that magnitude to look at.

I have supported user fees year after year because I believe that there should be some way in which the person who benefits, should pay. But, I could not guarantee to you, sir, that it would be possible to collect $100 million, particularly since the legislation is just being introduced, and we would have to have legislation for it.

To collect $100 million, there could be virtually no exemptions in the user fees, so the small company would have to pay too. And that may be somewhat difficult.

Senator BUMPERS. Well, let me ask you this. Are you going to have the opportunity to promulgate rules on these user fees?

Dr. YOUNG. We have to get legislation first, then the regulations. And that is going to be the——

Senator BUMPERS. So the authorizing committee will consider user fees?

Dr. YOUNG. Yes; and I think the interesting challenge for you, and therefore, for me, will be whether or not, in your calculation, you can figure that the legislation will be passed and the regulation will be promulgated to meet the fiscal year 1990 start time.

Senator BUMPERS. Well, I may want to hold a hearing. I am chairman of the Small Business Committee and we may want to hold a hearing on what impact this might have, so that when this legislation comes up on the floor we might want to try to change it so that we can minimize, if at all possible, the impact on smaller companies.

How about premarket notification, so-called 510(k) notices? Will there be user fees on those?

Dr. YOUNG. We will essentially put user fees just about on every application that we can. We have to in order to raise $100 million. That is a very high figure, when you look at all the premarket applications that we process.

## NCTR PILOT PROJECT

Senator BUMPERS. Now, can I get you for the record to say that you are still committed to the pilot project in Pine Bluff on the biomedical facility?

Dr. YOUNG. Senator Bumpers, I have not swayed one micron——

Senator BUMPERS. Bless you.

Dr. YOUNG [continuing]. In my commitment to this.

Senator BUMPERS. Let me reiterate all those kind things I said earlier. [Laughter.]

Dr. YOUNG. Well, I feel very strongly for an additional reason there. I feel that it is only fair, only fair, that we look at the revitalization of all parts of the Nation. And to just have the——

Senator BUMPERS. You know, you are the first witness I have ever heard testify in my 14 years in the Senate to say that. I believe very strongly in that.

Dr. **Young**. I do, too, sir.

Senator **Bumpers**. That may be a parochial view, because I happen to be an inland-State Senator, but I have watched the great economic development of this Nation, the prosperity of this Nation in the past 8 years, and I know where it took place, and it was not in my State.

And the Government has a role to help redress that. But, go ahead.

Dr. **Young**. I think so. I am from upstate New York, and I guess those of us in Rochester look at us as noncoastal as well.

Senator **Bumpers**. Well, my daughter went to school in upstate New York, and she says that the people in the city do not even know they exist up there.

Dr. **Young**. That is right.

But, fundamentally, I think that the attraction, the best attraction that I could see, nationally, for this, is that at NCTR, we have land that could be used for some of the agricultural and the environmental considerations.

And I think that is important because, as Senator Kasten was saying, unless we begin to try to look at field plots and bring this into the food supply, and do the right experiments, we are going to have a lot of questions.

The other thing that I like about that particular plan is that we had hoped to involve high school teachers and college teachers in being able to use the facility in the summer.

We have got to bring that to the American high schoolers and college students. And to be denied this because you do not have the equipment, I do not think is fair. So, I am supportive of that. I know that there are others who will differ with me, but I have stayed very firmly committed.

Senator **Bumpers**. If I were President, I would jump on the idea of continuing the education of teachers like a chicken after a June bug.

If we are really serious about improving the quality of education in this country, we must provide for the continuing education of our 2.5 million elementary and secondary teachers.

Dr. **Young**. Absolutely.

To give you an idea of how strongly we felt on that, when I still had my research lab, I had a lab of about 6,000 square feet and 30 people with me up in Rochester. We did bring high school teachers in and college teachers in for summer experiences in our research laboratory.

It was a bit stressful when we did it first ourselves, and then we applied for an NSF grant, and we were able to build an outreach program for teachers in biotech. We felt that, in order to teach it, you had to have hands-on experience, you needed to see what it was like to clone a gene, and to do some of the gel experiments, and to inject the variety of animal eggs with genes.

It is a fascinating field and one that is going to be filled with myths. In that same way, we had, very early at Rochester, built a course in which we combined medicine, biology, theology, political science, and ethics in recombinant DNA, and did that in the mid-1970's, to try to bring various parts of the academic sphere together.

I think this has to be done, and these kinds of facilities can do that.

Senator BUMPERS. I could not agree more. You know, I have been trying to pass a bill for 4 years to accomplish what you were talking about. It is a pilot program that would cost $50 million and would allow elementary and secondary teachers to receive a stipend for 9 weeks of crash training in the humanities in the summer months.

You see, I am enthusiastic about scientific advancement—there has been exponential development. But one of the things I worry about is that we are going to forget about literature and the Constitution and the fine arts, as well as the performing arts.

The Carnegie Foundation and the National Endowment for the Humanities have these pilot programs that show conclusively what a dynamite idea it is.

And I do not want us to forget where we came from, I do not want us to forget the humanities as we go headlong toward trying to improve our skills in math and biotechnology and so on.

Dr. YOUNG. If I could, sir, put a little bit of ammunition for your bill. One of the things that I did when I was dean was to try to be sure that people had enough leave of absence to update their scientific technology.

We do a disservice, I believe, to our teachers by not giving them continuing education in the very frontiers that they deal with, whether it be science or literature. If you are always giving out information and do not have a chance for your own intellectual development, after a while, one can become drained of knowledge and really not teach appropriately.

So, I feel strongly about this, whether it be in the humanities, where it be in ethics, whether it be in science.

Senator BUMPERS. Well, again, I see there are just a few of us born to rule. [Laughter.]

### TRAINING GRANTS

One final question, Dr. Young. Last year, I introduced an amendment that would have assisted you in providing training grants in the area of regulatory review medicine because you apparently had a very serious shortage.

Dr. YOUNG. That is correct.

Senator BUMPERS. And it was creating serious difficulties for you. And the amendment did not survive the conference, but we did put some language in the report so that you could report back to Congress.

We have not received that report yet. And I just would like your comments on how well you are doing on that. That is one area in which I think Congress ought to give you some help if you still need it.

Dr. YOUNG. Well, first of all, we absolutely need it. We are one of the few public health service agencies that do not have a specific training grant program. The one that you supported and I concur with is one that would have enabled us to bring medical review officers and scientists into FDA as a payback for post-doctoral training.

The difficulty that we have had, and we appreciated your support, is that we had some tough financial difficulties last year. We, as all other portions of government, did have to meet our pay raises out of existing budget, and with 98 percent of our budget related to paying and supporting people and only 2 percent to extramural funds, we had no place to go.

Right now, we lose 10 percent of our medical reviewers a year. And at that rate of turnover, without a good training program, we are in deep trouble. So that, we feel very strongly about the need to deal with that. We have been developing and trying to get the report you requested through the process, and we will get it to you as expeditiously as we can.

### RECRUITMENT

Senator BUMPERS. Dr. Young, I really appreciate what you just said. I just cannot believe that we sit up here and debate about whether we are going to put $4 or $5 billion into SDI, when you tell me how strained your budget is and how difficult it is to keep qualified personnel.

I went out to NIH about 3 weeks ago. They have lost 28 percent of their senior scientists in the last 6 years and have not recruited one single replacement at $72,000 a year. There is not a scientist out there who cannot go into the private sector and make almost twice that much the first day.

Dr. YOUNG. Now that is absolutely true. I can tell you, for the Food and Drug Administration that we have essentially stopped recruiting the leadership of the Agency from the outside. Unless we recruit from the Federal Government or the military, where we were able to get Dr. Peck, from the Medical Corps in the Army, we are not able to recruit at these senior levels.

We will make, essentially from here on in, all of our recruitments from the inside. Now that is not bad to bring people in and raise them in the ranks; we cannot bring people in at the midlevel from the outside to replenish them.

And it is a desperate situation. In my first 4 years here, 16 out of the 21 on our policy board left and were replaced. All of those replacements, with the exception of Dr. Peck who came from the military, came from inside FDA.

I would never run a university without being able to bring in associate professors at the tenure level and full professors and chairmen from the outside. It is not responsible to have to run FDA, NIH, or CDC in that way at this time.

And regretfully, I think this will have an impact on what is going to be done for the American people.

Now, having said that, I am just delighted that so many have stayed so long to serve in FDA. We have got a dedicated group of people who do a good job against overwhelming odds, and budget is one, but not the only part.

### CONTACT LENSES

Senator BUMPERS. Dr. Young, just one last point. I am sure you are reasonably familiar with the fact that I have been trying for some time to get rigid gas permeable contact lenses reclassified.

Senator Hatch and Senator Kennedy both agreed with me on this, and the vast majority seems to agree on it with the exception of some in the House. We will try to get that language enacted, even on an appropriation bill this year.

I am not going to ask you to commit here today, but I think you have the authority to do this—I understand you are reluctant to do it administratively, but I wish you would. It would sure save us a lot of trouble.

Dr. YOUNG. I think you are into one of the most difficult areas, on reclassification.

We have done some things with the rigid gas permeable lenses, and we continue to work on that. The reclassification is not the sole answer there, and, Jim, maybe you would like to comment, you came out of devices, and bring the good Senator up to date on that.

Mr. BENSON. Well, I share your grief, because I have had to deal with this issue a lot, too.

What we have done, shy of reclassification, is streamlined, specifically for contact lenses, the premarket approval requirements. As a result, I think the manufacturers now should have a much easier time, a much less cumbersome time, getting those products on the market than they would have even a year ago. And we are continuing to look at that.

I personally believe that that is a superior solution than reclassification to accomplishing what is reasonable and what those manufacturers want. That is, to be able to stay competitive.

Senator BUMPERS. Well, let me say, I do not care how it is done. There are a lot of small manufacturers——

Dr. YOUNG. That is correct.

Senator BUMPERS [continuing]. They cannot compete with the big boys and absorb the needless costs imposed on them.

Dr. YOUNG. Well, that is exactly why we are taking the tack that Jim mentioned. And we are going to do that, we feel, not through the reclassification route, but through these administrative modifications.

We think we can do it a little bit easier than the reclassification. Because the reclassification goes through so many legal loops and jumps and turns and twists, that this would be a way to really do it more expeditiously. And we are on that tack. We have been meeting with them, and I think we have got some other meetings set up this year, do we not?

Mr. BENSON. I am sure we do.

Senator BUMPERS. Thank you, Mr. Chairman.

Senator BURDICK. I have been sitting here in utter euphoria.

Dr. YOUNG. So far, so have I, sir.

Senator BURDICK. Your talk about expanding the operations, apparently geographically as well. I just thought, as long as you are thinking about that area, there is a place called North Dakota, you ought to put——

Senator BUMPERS. Is it North Dakota or Dakota, Mr. Chairman?

Senator BURDICK. North Dakota. Put that in as a possibility in the future.

Dr. YOUNG. I want you to know, I used to live in southern California, and my family would be in upstate New York. So the way we would go is either through the Black Hills or the Badlands, about every other year. And we got to know that country. Interesting country.

It is a tough country to survive in. And the people that are there, I imagine, have been selected genetically.

Senator BUMPERS. You are looking at the prime example.

Dr. YOUNG. I figured I would not carry further, but I had that in mind, too.

Senator BURDICK. I just have one or two questions and then we will let you go.

Dr. YOUNG. Yes, sir.

### USER FEES

Senator BURDICK. If $100,000,000 cannot be collected in 1990, how would FDA respond to a shortfall in funds? Would certain initiatives be curtailed or would you risk violating the Anti-Deficiency Act by continuing an ongoing activity despite the insufficient appropriations? What would you do?

Dr. YOUNG. If the money was not provided we would have no choice other than to RIF 22 percent of the agency. We would be close to taking down the flag, because in such a RIF the ability to carry on the functions of the agency would be markedly constrained.

At that time we would probably move into an emergency mode, where we would try to deal with the emergencies as they come: The tampering, some of the food crises, premarket approval, and post-market surveillance would be curtailed.

We would deal only with acute emergencies of a public health nature, and probably do more of a freeze on the orderly review of new technology.

It would be a disaster, sir.

Senator BURDICK. Would not user fees result in higher prices being paid by consumers for regulated products, such as medical devices, prescription and nonprescription drugs?

Dr. YOUNG. That is a very difficult question to answer. It depends on what the overhead is. If you were to assume no additional new revenue and the passing through of a new system that would require the collection, the accounting, the oversight on these moneys, it would probably be at a minimum 10 percent less efficient than the current system, and at a maximum probably 25 percent.

Under those circumstances, the consumer, who would be the recipient of the pass-back, would pay more than he would through the tax system as it is now.

Anything that would detract from the efficiency of the collection dollars, without added revenue, would do that. Because it is not smoke and mirrors, the money has to come from somewhere, some way.

Senator BURDICK. Have other initiatives for obtaining contributions from industry been considered in lieu of user fees? If so, what type of initiatives appear viable, if there are any?

Dr. YOUNG. We have considered some. One would be establishing a foundation to collect contributions. That might be more difficult because of what would be more of an appearance of conflict of interest.

We have also thought about the donation of fixed equipment and buildings. One of the greatest problems that deals with our efficiency at this time is that the FDA is spread out geographically in 23 different buildings in the Washington area.

Thus, we have multiple libraries, difficulties in communications, and it had been thought that maybe an offset would be the donation of a building and property or the leasing of a building and property by industry.

I think that could be, again, viewed as conflict of interest. So, probably the fairest way is a user-type fee. If I were to look at a user fee, though, one of the areas that I am becoming increasingly concerned about, which I could defend equally easily, is the possibility of looking at user fees on imports.

Because, here, we do not have a level playing field. We have a playing field where the products produced in the United States undergo good manufacturing inspections, and we know the quality of the manufacturing, whereas, things coming into the Nation, we do not conduct inspections on most products overseas and do inspections on the dock or wharf examinations which are much more difficult.

There, you are shifting the burden, in part, outside of the consuming public and leveraging it. But this type of a user fee, if it has any inefficiency at all, would only raise prices.

I do not have a good answer. I mentioned just the things that would be other than user fees, I am an advocate, I have been over the years, of user fees, if they can be collected properly and could allow us to meet the additional needs of the agency.

These user fees replace existing dollars.

### BUDGET REQUEST

Senator BURDICK. Could you tell me what was FDA's original inhouse budget recommendation for personnel, facilities, and operating expenses in 1990?

Dr. YOUNG. I can get it for you in just a minute, sir.

The request to the Public Health Service was $674.8 million, and 8,192 FTE's.

Senator BURDICK. What was your original request for the AIDS staff-years and expenses?

Dr. YOUNG. Just a moment, sir, I have that here.

It was 71 FTE's greater than the amount that we have shown you here, and $16 million greater.

I should add in this point, that as we have dealt with AIDS, in 1988 we budgeted for 127 FTE's, and we used 280. In 1989 we budgeted for 323, we expect to use 380 or 400. I have pledged to the American people that if we run short on funds for AIDS that we will take it from other areas. And we have steadfastly done that.

So we are eating into the rest of the agency to meet this need.

### SUBMITTED QUESTIONS

Senator BURDICK. Thank you.

And, Doctor, the members of this committee will perhaps submit you some questions in writing, and I hope we can get some timely replies.

Dr. YOUNG. We shall, sir.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

## QUESTIONS SUBMITTED BY SENATOR BURDICK

### User Fees

QUESTION: At the conclusion of your statement, you mention that you are providing legislation to give FDA the authority to charge fees for product reviews. Have you sent this legislation to Congress? If not, on what date do you intend to do so?

ANSWER: The proposed legislation was transmitted on April 3, 1989.

QUESTION: Is it realistic to assume that $100,000,000 could be collected from user fees in 1990, given the regulatory process required before implementation?

ANSWER: Technically it is still possible that $100 million in user fees could be collected in 1990, if Congress acts quickly on the proposed legislation. Detailed proposals for user fees, will depend on what the legislation finally passed requires. There is likely to be a minimum of a few months delay in implementation after the legislation is enacted if the traditional notice and comment rulemaking procedures are followed which usually allow 30-60 days for public comments to proposed rules. Again, though, the timing of such a delay would depend on when Congress acts.

### FDA Facilities

QUESTION: For our hearing record last year, you provided information about the broad distribution of FDA facilities in the Washington metropolitan area, which in large part prompted us to ask you to look at this situation in cooperation with GSA. How does the scattered location of your facilities affect your agency's work? Can you give the Committee examples of problems that might exist?

ANSWER: The fragmentation and overcrowding of the FDA headquarters staff contributes to many problems. Among them are: (a) increased difficulties in coordination, consultation and the transfer of ideas, information and expertise between scientific personnel; (b) inefficient resource sharing, especially for expensive pieces of scientific equipment; (c) wasted time due to the need for local travel; and (d) diminished opportunities for consolidated service and support functions. Scientific interaction between the five Centers of FDA is becoming more important because of the interdependence of the scientific fields. For example, a device delivery system for drugs requires review by two Centers.

QUESTION: Once the two new buildings at Beltsville and NIH are completed, will your facilities problems be resolved? If not, why?

ANSWER: No, the new building at Beltsville will only accommodate the animal colony and animal laboratories from our facilities in downtown Washington. It will also accommodate about 135 of the staffs of the Center for Food Safety and Nutrition (CFSAN) and the Center for Drug Evaluation and Research (CDER). The balance of those two centers will still be located in three buildings each, at scattered sites.

The new building to be built at NIH will greatly reduce overcrowding, at FDA's biologics laboratories there, and will provide space to house 160 people for our highest priorities and growing workload related to AIDS. However, it will not address space needs for increasing workloads in other areas.

QUESTION: Many have suggested that a consolidated facility should be sought if FDA is expected to meet the ever-increasing demands of science and technology in the fields of medicine, pharmacology, foods, and biotechnology. Has FDA examined the feasibility of consolidating its facilities over the long term? How long would it take to accomplish such a consolidation effort?

ANSWER: Yes. We have concluded that it would take the better part of ten years to design, construct and occupy a consolidated campus.

QUESTION: Has a feasibility study describing the FDA's facility needs and alternatives been prepared? Would you provide us with a copy of such a study?

ANSWER: Yes. FDA has conducted internal studies of its facilities needs and possible alternative solutions. At present, as directed by the Committee in its Report on FDA's 1989 Appropriations, the agency is working with GSA on a report detailing options for consolidating FDA's headquarters facilities. We plan to furnish a report to the Committee this Summer.

## Supplemental Request for 1989

QUESTION: The 1989 supplemental is expected to reduce discretionary accounts by almost 1.1 percent, with an impact on FDA of approximately $5,000,000. How would this reduction in funds be absorbed by your agency? Has FDA been required to absorb any unforeseen and significant costs in 1989 that have affected planned or ongoing projects? Please describe the types of additional activities funded and their impact on funds for other projects.

ANSWER: This reduction would reduce FDA's budget by about $5 million. While the Agency is considering options for absorbing such a cut, reducing equipment and support contracts hurts the agency's efforts to make the most effective use of its critical scientific employees, and other costs we have already had to absorb this year have already been taken in this manner and used almost all our flexibility in this regard. These other costs totaled over $13 million, associated with the 4.1% pay increase in January, unanticipated increases in the Government contribution to employee health insurance, and a new pay bonus program for non-managerial civil service employees. Hiring freezes would save limited amounts, and furthermore freezes tend to restrict hiring in areas where the agency may be very short of expertise, and often cause the agency to lose well qualified candidates.

## Biotechnology

QUESTION: Commissioner Young, in your appearance before the Committee last year, we had an opportunity to discuss FDA's response to advances in biotechnology. Again, this year you emphasize how biotechnology could change traditional medicine and food supplies. Does FDA perceive an immediate and long-term growth in the demand for biotechnology-related research? Does FDA have scientists trained to meet projected demands in biotechnology?

ANSWER: As noted in our justification of our appropriations estimates, the agency studies have shown that there will be a rapidly increasing amount of research in this field, affecting not only the production of medicines but also various aspects of food production, including new types of plants, new methods of food processing, and new products for food animal production. This type of research is essential if this country is to remain in the forefront of this type of technology.

For those products regulated by FDA, it is necessary for FDA to have a base of applied research and scientific expertise if the agency is to be able to make prompt decisions, and not be a barrier to the marketing of new products. For this reason, the agency's 1990 request includes increases of over $14 million for biotechnology initiatives in many parts of the agency.

FDA currently has a number of scientists trained in biotechnology, especially in the field of biological products as they relate to AIDS, but the agency will need more expertise in the future to meet the projected workload in all major parts of the agency. The increases requested will enable the agency to provide contracts, equipment, and other support to build up the agency's science base in this field.

QUESTION: Your budget justifications state that you are "considering evaluating the feasibility" a biotechnology demonstration project at the National Center for Toxicological Research. Wouldn't you agree that this statement ignores the directive of the conference committee that up to $3,000,000 may be made available "to establish and implement" a biotechnology demonstration project at NCTR?

ANSWER: No. The Conference Report stated that funds "may" be made available, and we have taken action to see if the funds can be spent the year. In response to the directive, an agreement was negotiated with the State of Arkansas to jointly fund a study to answer important questions about specific needs and direction of the effort, with the State and FDA sharing equally in the cost. A contract work scope was prepared, a Commerce Business Daily announcement was issued, and a Request for Proposals was prepared for issue in early December 1988. However, FDA was advised by OMB that this project may not be consistent with Administration policy. Thus, other than staff preparation time, funds have not been spent on this effort to date.

QUESTION: What portion of the $3,000,000 has been obligated? If not the entire amount, why -- particularly in light of your statement that biotechnology is an area of growing emphasis?

ANSWER: To date, the FDA has not obligated any of the $3,000,000 authorized for a biotechnology demonstration project. As noted in the previous answer, there is some question within the Administration as to whether the project should be implemented.

QUESTION: What has been your recommendation with respect to NCTR? Where is the hold-up in moving ahead with the demonstration project?

ANSWER: NCTR, through its breadth of activity in toxicology research, has essential capabilities in "biotechnology" research through its work with methodologies that are common to both research activities. Toxicological research serves as the base upon which biotechnologists and others can elucidate or alter genetic processes. When coupled the Center's expertise in risk assessment and extrapolation, these findings are also important in predicting or evaluating human health effects associated with biotechnology work and products. As noted earlier, OMB has expressed concern that this project would not be consistent with Administration policy. Questions have been raised about the perception that this project would represent a direct government subsidy of a private business venture; that it would represent high capital costs not accounted for in budget/deficit reduction targets; and that it would represent a long-term commitment of government funding.

QUESTION: Will FDA be coordinating cooperative research efforts with industry and academia at the NCTR facility? Please describe your efforts and the status of such proposals.

ANSWER: We have already begun interactions with industry under the authority of the Federal Technology Transfer Act. Currently, we have two agreements under various stages of review within the FDA. We expect approval of one of these agreements shortly. Additionally, NCTR is actively negotiating with ten other groups or organizations to establish cooperative research and development agreements under the authority of this Act. NCTR has long-standing interactions with academia through the cooperative research programs with the University of Arkansas for Medical Sciences and the National Center for Toxicological Research Associated Universities.

## Food Labeling

QUESTION: The Committee continues to be concerned about FDA's efforts on food labeling. By what date does FDA expect to issue its regulations on cholesterol and fatty acid labeling of foods? (Within this fiscal year?)

ANSWER: A draft final rule on cholesterol and fatty acid labeling is in final clearance within FDA. The final rule is expected to be published in the Federal Register within this fiscal year.

QUESTION: Understanding that the Citizen Petition filed by the National Food Processors in January 1989 represents a consensus of its 600 trade association members, please tell the Committee whether FDA will promulgate regulations on fruit and vegetable juice beverages immediately after the September 30, 1989 ban has expired? If not, why?

ANSWER: The FDA recognizes that the proposal in the NFPA petition represents a consensus of a special NFPA task force on labeling that included executives from major juice and dilute juice processor companies. The FDA is hopeful that the NFPA may have found a way to resolve the percent labeling controversy that reconciles both consumer and industry concerns. We are also concerned, however, that the NFPA proposal requires a combination of legislation and rulemaking.

For now, the FDA intends to honor the conference committee's direction that FDA use no 1989 funds to promulgate rules and regulations that require changes in fruit juice labeling. Therefore, FDA plans no work on NFPA's petition or on fruit juice labeling rulemakings until FY 1990.

In FY 1990, we will give this issue a priority consistent with available resources and with public health and safety issues that need to be addressed. FDA has not evaluated NFPA's petition nor has it assessed the time that it would take the agency to draft a proposal that properly addresses NFPA's petition, the current regulation (21 CFR 102.33), the proposal to rescind 21 CFR 102.33, and the comments received on the latter proposal. Because the FDA will not work on the issue until FY 1990, and because of the complexities in the current status of rulemaking, FDA does not expect to publish a proposal early in FY 1990. Nevertheless, FDA is looking forward to beginning the process to finally resolve this issue in FY 1990.

QUESTION: Last year, the Conference Committee directed FDA to initiate rulemaking to define commonly used, vague, and misleading nutritional and health labeling claims, such as lite, low-fat, natural. When does FDA intend to issue rules on "lite," "low-fat," and "natural" claims?

ANSWER: FDA is currently developing a proposed rule that will address fat and fatty acid claims such as "low fat." The agency hopes to issue the proposed rule this fiscal year.

FDA is considering promulgating a regulation to address the meaning of the word "light" (or "lite"). In addition, the agency has been petitioned by industry to establish food standards that would incorporate this term as part of the product name. Our policy is to consider this term a claim for low or reduced calories subject to provisions of 21 CFR 105.66, unless its meaning is otherwise specified on the label or is obvious, for example, standardized light whipping cream as opposed to heavy cream, or light brown sugar as opposed to dark brown sugar.

The Federal Trade Commission (FTC) attempted to define the word "natural" several years ago (39 FR 39842, Nov. 11, 1974) and, after a very contentious hearing, withdrew the proposal (48 FR 23270, May 24, 1983). The Bureau of Alcohol, Tobacco and Firearms did likewise (50 CFR 960, Jan. 8, 1985). On December 21, 1979 (44 FR 76012), FDA published comments regarding "natural" claims on food labels. At that time, the agency did not attempt to restrict "natural" claims since "the development and enforcement of standards in this area would be difficult and might unjustifiably imply to consumers that food labeled 'organic' or 'natural' is inherently superior to other foods in nutrient content and safety," especially since these terms are ambiguous and convey different meanings to consumers. Since that time, FDA has chosen not to take action against the use of the term "natural" unless the claim was clearly fraudulent. FTC has maintained a similar policy.

QUESTION: Does FDA have current authority to prohibit labeling claims that are false or misleading?

ANSWER: Yes, this authority derives from section 403(a)(1) of the Federal Food, Drug and Cosmetic Act which states that a food shall be deemed to be misbranded if its labeling is false or misleading in any particular.

However, under this section the burden of proof is placed on the government. Meeting this burden usually involves the use of expert witnesses. Such cases are usually difficult since the claimant generally has his own expert witnesses.

QUESTION: Can FDA address these three labeling definitions within its current authority?

ANSWER: The FDA has authority under the general provisions of the Federal Food, Drug, and Cosmetic Act to prohibit claims that are false and misleading. The agency has used this authority as a basis to define adjectival descriptors such as low calorie, reduced calorie, sodium free, very low sodium, low sodium and reduced sodium. We plan to use this authority to propose a rule governing the use of the term "low-fat", and we're considering using this authority to address the meaning of "light" or "lite". As explained above, however, we are reluctant to try to use this authority to define the term "natural".

QUESTION: How soon can a definitional review of these terms be underway? How much will this review cost the agency?

ANSWER: A review of the terms "low fat" and "lite" is already underway. Proposed regulations to define "low fat" are being drafted at this time. For the reasons given above, the agency is not attempting to define the term "natural."

It is difficult to break out the costs of these reviews. The review of "lite" and "low fat" are part of larger efforts to define adjectival descriptors being used on food labels and to review food standards. Furthermore, promulgation of regulations dealing with these terms requires notice and comment rulemaking under the Administrative Procedures Act. It is difficult to project agency costs until the number and complexity of the comments is known.

## Recruitment of Medical Officers and Scientists

QUESTION: The conference directed FDA to provide a report to Congress by January 15, 1989 on the difficulties you are having in recruiting medical officers and scientists with skills in regulatory review medicine. Where is this report?

ANSWER: FDA's draft report is currently undergoing review within the Administration.

QUESTION: When can we expect this report?

ANSWER: We are hopeful of a finished product in May.

QUESTION: What recommendations are you making to assist in recruitment and training efforts?

ANSWER: Several actions have occurred recently to help improve the recruitment process. These include newly-legislated authorization for a doubling of the Physician Comparability Allowance; a one-year authority to FDA to directly hire a select group of medical device reviewers in specific grades; the delegation to FDA to approve advanced hiring rates for scientific occupations; and the establishment of a "Recruitment Manager" in FDA to coordinate and manage the process of recruiting new reviewers into the agency. For the most part, recommendations for further action to address recruitment difficulties center around establishment of a mechanism which would enable FDA to offer competitive salaries for reviewer positions at all grade levels for which qualification requirements are highly specialized and unique.

QUESTION: Is salary the only obstacle FDA has encountered in recruiting new scientists?

ANSWER: While salary certainly stands as a major obstacle, our experience has shown that benefits have to be considered with salary as an impediment to recruitment, influenced in large measure by a strong competitiveness which exists between FDA and the private pharmaceutical industry. In addition, sometimes unavoidable delays in the competitive Federal hiring process creates difficulties in recruiting candidates who are impatient to become employed. Also, the physical space we have to allocate to our physician reviewers does not provide an attractive working environment. Lastly, we are finding a scarcity in some cases of available candidates with the necessary training and knowledge who also have the desire to serve as medical reviewers.

QUESTION: Is FDA the only Public Health Service agency without a regulatory review training program in place? Would there be any benefit for developing such a program at FDA? What would such a program entail?

ANSWER: FDA is the only agency within PHS with a regulatory review mission, and there is no formalized training program in place. Although no other PHS agency would have such a regulatory review training program, forms of training programs, specifically the awarding of training grants and/or programs based on loan repayment and service obligation, are in operation in several of the PHS agencies. For example, Section 301 of the PHS Act authorizes NIH to train individuals to do biomedical research; Section 472 permits NIH, ADAMHA, and NCHSR to provide grants to public institutions and nonprofit private institutions enabling them to select individuals for National Research Service Awards for training to undertake biomedical and behavioral research.

FDA has been looking into the concept of a training grant program for the agency whereby grants would be awarded to public and private nonprofit institutions to develop programs to train health professionals and scientists in the field of regulatory review medicine as part of a post-graduate curriculum, entailing a commensurate commitment of service with FDA on the part of the trainee upon completion of the program. This concept is under study and exploratory discussions are leading us to believe that this type of program could be beneficial to the agency. However, we have not yet identified any budgetary offset to accommodate additional funding for this purpose within the current budget, deficit reduction targets.

QUESTION: For the hearing record, could you please provide a description (including salary information) of the mid- and senior-level positions for which FDA has encountered difficulty in recruitment and retention.

ANSWER: Pay and benefits are probably the greatest single impediments to recruitment and retention. In almost every recruitment action for scientists and physicians, FDA is at a disadvantage when compared to private industry and academia in terms of salaries paid and benefit packages offered. This applies to all levels, from entry level to senior management.

Representative examples, but not a complete list of positions for which FDA has had difficulty in recruitment and/or retention include: physicians at the GS-14 and GS-15 levels (salaries ranging from $56,128 to $75,500, depending on grade, step and qualifications); toxicologists at the GS-11 and above grades (beginning salary of $28,852); biostatisticians at the GS-12 and above grades within the Division of Biometrics of the Center for Drug Evaluation and Research (beginning salary of $34,580); and the SES position of Director for the Division of Anti-Infective Drug Products in the Center for Drug Evaluation and Research, for which recruitment efforts have been unsuccessful for almost two years (salary range of $68,700 to $76,400).

## Fat Substitutes

QUESTION: Commissioner Young, last year I asked your agency to respond to some concerns expressed to me about pending consideration on synthetic fat substitutes. It seems many are concerned that the potential exposure of consumers to these substitutes would exceed any food additive in history.

Could you tell me if there is any dietary intake volume level that distinguishes a food additive from an actual food substitute?

ANSWER: The definition of a food additive (21 U.S.C. 321(s)) does not include "dietary intake volume level" as one of the characteristics that distinguishes a food additive. A "food additive" is any substance that may become a component or otherwise affect the characteristics of any food and that is not generally recognized as safe. Clearly, a fat substitute may satisfy both of elements of this definition.

QUESTION: Would FDA reviews assure the safety and efficacy of fat substitutes if consumption of fat substitutes are to be approved for use in processed foods?

ANSWER: FDA scientists evaluate information concerning the safety and efficacy (technical and functional effects) of all food ingredients, including fat substitutes, for which GRAS or food additive petitions have been submitted. The agency ensures that each substance is safe for its intended use in processed foods before the agency approves it.

QUESTION: Will your analysis of synthetic fat substitutes, such as Olestra, include extensive human studies?

ANSWER: Food additive safety of Olestra will be based mainly on the results of animal studies. There have been approximately 23 clinical studies conducted with olestra, but most of these have been investigating cholesterol lowering effects and consumer acceptance. Only a few studies have been conducted that relate to food additive safety, e.g., gastrointestinal side effects and effects on vitamin uptake.

## Budget Request — Personnel

QUESTION: The 1990 budget request does not include augmentation of staff, excluding for AIDS product review and research activities. Commissioner Young, do you believe that FDA can continue to make headway in meeting statutory deadlines for review of new products at the present staff level?

ANSWER: Yes. AIDS has been the major single impact on product review, and our 1990 request includes increases of 183 FTEs for various program activities related to AIDS. While the 1990 request does not include other staffing increases, staffing increases have been provided in recent years for new drug and new device review. Moreover, our 1990 request includes dollar program increases to provide further enhancements to these programs, in order to make better use of our staff. And, the agency is considering a variety of initiatives to continue to streamline these review processes.

QUESTION: Understanding that in the past ten years, 23 laws have expanded FDA's authority, yet in the same period staff has been reduced by 15 percent, do you believe that FDA has sufficient staff to meet all of its statutory obligations? Where are the shortfalls? In what specific areas do you believe staff increases would be most beneficial?

ANSWER: The 1990 request includes sufficient staff for FDA to meet its most important obligations. We have lost substantial staffing resources over the past ten years, as you acknowledge, and we have had to streamline our operation to be as efficient as possible. In the absence of budget constraints, I would add staff to a number of FDA's operations, especially to our field operations. However, in view of the pressing national concern to reduce Federal deficits, the budget cannot include everything that might be desirable. The 1990 request will enable FDA to continue its current performance of its mission at the current level of staffing, except for AIDS where a rising workload has led to a request for 183 additional staffyears.

## Drug Abuse Activities

QUESTION: The 1989 Drug Enforcement Act provided FDA with $5,000,000 for monitoring, education, and enforcement efforts to curtail drug abuse related to methadone narcotic treatment and illegal use of steroids and other misused drugs in the marketplace. How many staff are working on drug abuse projects currently?

ANSWER: For 1989, FDA expects to use about 70 staffyears for activities related to the curtailment of drug abuse.

QUESTION: Do you have any plans to increase the level of staff in 1990?

ANSWER: At present, we do not plan to increase the level of staff in 1990, beyond the level expected for 1989. The 1989 level we expect to use represents a substantial increase over what we used in 1988 —a result of the increase provided in the recent Act.

QUESTION: What level of funding are you devoting to these efforts in 1990?

ANSWER: We estimate that funding for these activities in 1990 will be approximately $7 million.

QUESTION: Do you plan to expand FDA's drug abuse related activities in the next fiscal year? (91) If so, in what areas?

ANSWER: We are currently considering our 1991 program and resource needs preliminary to developing our FY 1991 budget request and thus cannot say at this time what may be in our 1991 request. We do intend, at a minimum, to continue the level of activity initiated in 1989.

QUESTION: How would such expansion impact other programs?

ANSWER: Since we don't foresee expansion of our drug abuse activities in 1990 beyond that attained in 1989, we do not anticipate any appreciable impact on other programs.

## Budget Request for AIDS

QUESTION: Commissioner Young, last year your agency received 127 new full-time employees for AIDS, as well as construction money for a new facility on the NIH campus. At our Subcommittee hearing, you noted that about 50 of the 127 scientists would be located at the biologics building, with the remainder of the staff working on new drug reviews and in the field. How many of the 183 new staff requested for AIDS in 1990 will work at NIH? How many will be working on drug reviews and in the field?

ANSWER: We anticipate that approximately 60 of the additional staff will eventually be working in the FDA buildings on the NIH campus. Of the remainder, we estimate that at least 60 of these new positions will be working on drug reviews and that at least 25 new staff will be located in our field offices.

QUESTION: What is the timeframe for completion of the new AIDS building on the NIH campus?

ANSWER: Solicitation of interest by architectural firms for the design of the building was published in March, 1989. We expect that the contract for design of the building should be awarded by September of 1989, with completion of the design projected for the second half of 1990. Following the process of awarding a construction contract, construction should be initiated in early 1991, with completion anticipated by the second half of 1993.

QUESTION: Where are the scientists located during the interim?

ANSWER: Unfortunately, our options for interim housing for the new scientists are few. We foresee the need to continue to double-up in existing offices where possible, as well as being forced to use existing laboratories as both offices and labs. FDA is seeking to obtain additional office space for review staff.

QUESTION: Have any special or unusual arrangements been required for employees to share space or alternate work schedules as a result of inadequate facilities?

ANSWER: Of necessity, there are many instances where we have had to assign several professional staff to space normally designed for single occupancy or to space normally set aside for other purposes such as libraries, filing, or storage areas. We have not yet adopted formal alternate work schedules, but they are being considered.

QUESTION: Do you have enough space for the 183 new AIDS scientists and researchers included in your budget request? In what locations will the new staff be working?

ANSWER: It is clear that currently space will be very crowded for the staff level requested in our budget given the current circumstances. The new building, for which funds were appropriated in 1989, should alleviate much of the current situation. It is difficult to pinpoint exactly where the new staff will be located; however, as answered above in part, we expect that, outside of the new staff added to our field offices, the remainder will be placed in our facilities around the Washington area as space can be made available. We are exploring all possible options for more satisfactory physical arrangements for all of FDA, including the additional AIDS staff.

QUESTION: Some concern has been expressed that continuing emphasis on the AIDS program could adversely impact the timeframes for review of other new drugs and devices. Do you believe that is a justifiable concern? Why or why not?

ANSWER: Applications for drug, biologic, and device products related to AIDS are being designated with 1-AA priority for review. This designation means that all such applications are being accorded top priority and, with the additional resources to address the AIDS program, we do not anticipate at this time any adverse impact on the timeframes for review of other therapies not so designated. FDA's 1990 request includes increases for new drug and new device review, as well as increases for biotechnology initiatives, separate from the AIDS request.

## Chilean Fruit Crisis

QUESTION: Commissioner Young, in the past few years, FDA has borne greater responsibility for product tampering. Your handling of the Chilean fruit tampering recently is commendable. Where did you get the resources to respond to this crisis?

ANSWER: The nature of the threat, the intelligence on hand and our scientific research knowledge with fruits made it mandatory that all fruits from Chile be detained in the interest of public health. The volume of fruit arriving at various U.S. ports of entry as well as the fruit already in interstate commerce was staggering. Resources from other district offices were temporarily switched (from district to district) as the need arose. In addition people worked overtime, weekends and extended hours to get the job done. Fortunately, although other work had to be deferred, FDA has a skilled and dedicated Field staff to respond to such crises. In terms of resources, however, the time spent on this incident was diverted from planned food and drug plant inspections and similar activities.

QUESTION: How many staff did you assign to the project?

ANSWER: Over 400 staff have been directly involved. Overall, we expect to use at least 50 staff years for this crisis. The number of staff assigned to the project varied according to ship dockings and the locations of the warehouses. At one point approximately 15% of FDA's investigational staff was mobilized just in the port of Philadelphia.

QUESTION: Where funds transferred from other work efforts?

ANSWER: Operating funds for the costs of overtime and travel were initially transferred from other planned expenditures. However, since the Contingency Fund has been utilized for these costs, the major impact will have been the diversion of our Field staff from other planned regulatory work.

QUESTION: Has your contingency fund been depleted?

ANSWER: No, there was a balance in this fund of $1,157,100 at the beginning of this fiscal year, not including the $5,500,000 appropriated in fiscal 1988 which is being utilized for blood bank surveillance. The unusual costs of this incident, including primarily travel and overtime, have totalled slightly over $300,000 for which we plan to use this Fund. Even if there are additional costs for this incident, there would still be a substantial balance in this fund, unless we encounter additional emergencies.

QUESTION: How has this crisis affected on-going projects and how will it impact your budget for the remainder of 1989?

ANSWER: The management of the Chilean fruit crisis has required mobilization of a sizeable number of field operational people. Since the Contingency Fund has been used for the unusual costs of travel and overtime, the primary impact of this incident will have been the diversion of staff from other duties planned during that period of time. Many inspections of food firms, drug plants, and other regulated firms were deferred, so there will be a reduction in the number of inspections and investigations that the agency can conduct this fiscal year. The staff time diverted to this incident will probably represent over 5% of the total Field investigator time for the year. In addition, this crisis has made the agency aware that it may need to devote some laboratory time and resources to developing a better data base on poisons such as cyanide as they react in various products.

## Generic Animal Drug and Patent Term Restoration Act

QUESTION: In reviewing the 1990 budget, I note that there is no specific for implementation of new generic animal drug and patent term restoration legislation passed by Congress last year. How does FDA plan to meet the new requirements of this law? How many personnel would be needed for the Center for Veterinary Medicine to meet its statutory requirements? If FDA were required to use existing personnel resources to implement the generic animal drug program, would other review work be affected?

ANSWER: FDA has begun implementation with existing staff. Previous estimates have been that 36 staffyears would be needed for full eventual implementation. Within the 1990 budget requested, the agency plans to redirect between five and ten staffyears to carry out the highest priority tasks to implement this new law. This redirection within existing resources will probably slow down some of our other New Animal Drug Application review activities.

## Import Inspection Activities

QUESTION: Commissioner Young, in your testimony you mention that FDA is currently devoting more than 600 staff years to import inspection, an increase of 48% over five years ago. To what factors do you attribute the growing need for import surveillance, making more staff inspections necessary? Do you expect this trend to continue?

ANSWER: The annual volume of imported FDA regulated products has increased steadily over the past decade. Additionally, new risks have surfaced with imported products which resulted in increased attention given to imports. Two of these are pesticide residues on imported fruits and vegetables and microbiological hazards of imported seafood. Therefore, resources have been reallocated from lower priority activities to expand import inspections in order to attempt to keep pace with the increases in imported products entering the country.

QUESTION: What are the types and range of products FDA inspects?

ANSWER: The imported products FDA regulate are foods, drugs, medical devices, biologics, cosmetics, radiological product and animal food and drugs.

QUESTION: What level of funding and number of staff does FDA currently devote to imported surveillance? Do you expect these levels to grow in 1990?

ANSWER: FDA devotes about 600 staffyears to imported product surveillance at a cost of about $36 million. The same level of staff is projected for 1990, at about $38 million.

Included in our FY 1990 budget request is an increase of $600,000 that will be used to strengthen our imported products surveillance efforts (improved methodology, training of personnel, etc.).

## Blood Bank Inspections

QUESTION: Last year, we provided FDA with $5,500,000 in supplemental 1988 funds for inspections and technical training at blood banks nationwide. What steps is FDA taking to ensure that our blood supply is protected?

ANSWER: We initiated action to inspect every FDA-regulated blood bank and plasma center before the end of FY 1988 and to maintain annual inspections from now on. These inspections amounted to a doubling of work effort, since prior to this time, FDA's inspection program consisted of a routine inspection of each facility once every two years. All the facilities were inspected as planned and the agency intends to continue this annual inspection program as long as needed. Other special efforts include increasing the time spent advising blood facilities regarding effective quality control procedures, and providing increased training and equipment for our investigators.

QUESTION: What problems have you encountered? How have these been resolved?

ANSWER: The inspections showed that 278 facilities (approximately 11 percent) had deviated to some degree from FDA regulations for handling blood components. While no confirmed HIV antibody positive units had been transfused in that period, 39 of the inspections led to voluntary recalls of blood and blood components, most of which were the result of human and computer errors.

Approximately half of the annually-distributed 18 million units of blood products are distributed by the American Red Cross. In September, 1988, FDA and the American Red Cross signed an agreement under which the Red Cross is modifying its operations nationwide to establish clear lines of control between its regions and national headquarters, improve its training and auditing, and analyze and redesign computer systems to ensure that unsuitable blood and blood products are not released or transfused.

QUESTION: Will FDA inspect all blood banks and plasmapheresis firms this year? What is the total number to be inspected, in what locations?

ANSWER: FDA will inspect all 2,424 FDA-regulated blood banks and phasmapheresis centers again this year. Some may be inspected more than once, if needed. These facilities are located all over the country.

QUESTION: What procedures does FDA employ when surveying blood banks and plasmapheresis centers?

ANSWER: FDA's primary objective during an inspection is to assure that the blood and blood products released from donor facilities for use have been tested in accordance with applicable regulations. FDA investigators are guided by a comprehensive written compliance program covering all aspects of blood banking operations and the regulations contained in the Code of Federal Regulations. Records are reviewed to determine whether units of blood or plasma were tested and released or destroyed in accordance with the test results. Areas specifically covered by investigators include: donor suitability, to see that proper screening procedures of prospective donors are in place; ABO typing, to assure that blood type is correctly identified to lessen the possibility of transfusion reactions; hepatitis and HIV testing, to prevent the transfusion of infectious units and the removal of positive donors from the donor pool; and, laboratory quality assurance, to see that each test conducted by the laboratory is in accordance with the manufacturer's instructions and current regulations.

## Drug Application Reviews

QUESTION: Commissioner Young, what is the current timeframe for application review of new drugs and supplemental uses of approved drugs?

ANSWER: The average total approval time of new drug applications in 1988 was 29.6 months, and the average FDA approval time was 24.5 months, subtracting the time the review process was delayed pending the submission of additional data. For new molecular entities, the average total approval time in 1988 was 31.3 months, and the average FDA time was 29.2 months. The average approval time for supplemental applications is not currently available; however, FDA has monitored the number of effectiveness supplements pending over 180 days and has made major strides in reducing that backlog.

QUESTION: What obstacles are in the way of FDA meeting the statutory timeframes for its reviews?

ANSWER: Major obstacles include a lack of qualified scientific reviewers; the length of time required for provision of training and professional development of reviewers; the poor quality of many industry submissions, requiring additional review time; and the need to develop more guidelines to industry to help them improve the quality of their submissions.

QUESTION: Acknowledging the advantages presented by automation of the drug review process, could you tell me if FDA has developed a "master plan" for computerization in this area?

ANSWER: The Center for Drug Evaluation and Research has developed a plan for the period 1991 through 1995 for internal use which describes the current status of information resource management in the Center, its planned initiatives, deficiencies in systems and operations needing attention, its program directions for this period, and implications for ADP support. The plan identifies the improvements planned, including use of microcomputers, minicomputers, mainframes and Ethernet local area networks, as well as introduction of imaging systems and expansion of computer assisted review efforts. Other improvements include the expanded uses of small local area networks to enhance transfer of data and improve communication and sharing of peripheral equipment. The Center is expanding the plan through efforts of its ADP Policy Advisory Committee. In addition, a more detailed plan with respect to use of microfilm, imaging systems, microcomputers and the replacement of single function word processing workstations with multifunction workstations is being developed for incorporation into the master plan.

QUESTION: Does FDA intend to take the lead in the development of a computer network to improve communication between the agency and the wide variety of firms submitting applications?

ANSWER: We have been taking the lead in this very important initiative, to the extent resources have been available. We are now exploring with the industry automated methods to further improve the review process. The Agency is working with the Pharmaceutical Manufacturer's Association (PMA) to assess the feasibility of the submission of new drug applications in an automated format. The automated submissions, known as Computer Assisted NDAs (CANDAs) can take any number of forms. We are experimenting with a variety of approaches to see which are most helpful. We are willing to allow direct access by reviewers to the applicant's mainframe, direct access to a third party mainframe, review of the application on a microcomputer in the reviewer's office, review of the application on an Agency mainframe or the review of the application from an optical disk. The CANDA can also be a combination of these methods. A CANDA might also include the provision of an electronic mail system or use of facsimile with the applicant to speed the communications regarding a submission. One of the significant benefits to the availability of automated communications is the reduction of the turnaround time between an Agency request for information and the applicant response. Submissions still require a large amount of paper. However, in the future, it might be possible to require that only a relatively small amount of paper actually be submitted, with the bulk of the submission, including the case reports, submitted in an automated form.

We have received 24 CANDAs to date, not including submission of data on tape and diskette that we have accepted for some time. Reviews have been initiated on all of the CANDA submissions and many are either completed, or nearing completion. The Agency has committed to continue to explore the use of automated technology via the CANDA program. We have seen the CANDAs improve in quality since the inception of the program and with the availability of new technology. To further enhance the process initiated with the PMA, a notice was published in the FEDERAL REGISTER on September 15, 1988, to provide guidance to drug sponsors on the factors that the Agency considers in accepting CANDAs. The guidelines discuss resolution of potential problems in filing a CANDA with respect to logistical problems involved in the installation of computer equipment, consultation with the reviewing divisions on the development of CANDAs, the characteristics of the proposed application, including the methods and data files to be used, computer hardware and software requirements, plans for reviewer orientation and training, and other factors relating to the submission of applications using computer technology.

FDA has received relatively few CANDAs to date and we feel that this limited experience is not sufficient to permit us to draw conclusions about the superiority of one technical approach over another. However, our experience does allow us to conclude that data from case report forms and tabular listings can be effectively retrieved and reviewed using computer technology and that further exploration of the use of CANDAs should be encouraged. Additionally, we will continue to work with the PMA in CANDA efforts including an attempt to evaluate the limited experience to date.

Neither the pharmaceutical industry nor the Agency is locked into any kind of restricted format for data handling and both are free to proceed as they wish. As the technology advances, FDA reviewers become more proficient in using computers and the CANDA program evolves, it is likely that there will be a continued increase in the efficiency and effectiveness of the review process. All sponsors of NDAs may take advantage of the opportunity to submit CANDAs, depending on their willingness and technological capability to submit data in a form that FDA can effectively utilize.

We have taken steps to augment the electronic mail systems set up with the industry by increasing our use of facsimile equipment where it is needed to speed communications, and will shortly implement a limited video conference capability to facilitate meetings between FDA and the applicants. We are also exploring the acquisition of a facility to house equipment that is required to support CANDAs. We are also seeking the authority to charge applicants for the use of the Parklawn Computer Center's mainframe computers which would enable the use of this fee-for- service center as another platform for CANDAs.

QUESTION: What specific steps is FDA taking now to plan and design its computer systems so that it will be prepared to meet demands over the long term?

ANSWER: Several steps are being taken to assure that long term needs will be met. New microcomputers with multifunctional capabilities will be purchased to replace current single function word processing workstations. Many of these will be upgradeable so that they can serve as imaging workstations when used with document imaging systems if that technology proves feasible. All of the microcomputers will be connected to the Ethernet network through terminal servers or through small local area networks.

A plan to conduct a pilot project to demonstrate the feasibility of imaging technology in supporting drug review efforts in the AIDS area is being developed. We believe that it is likely that utilization of this technology will reduce the storage burden of the very large applications and make the information available to reviewers more rapidly.

QUESTION: Has FDA prepared a cost analysis of its automation plans? Does FDA have qualified information systems design specialists on staff to aid in preparing its automation plans?

ANSWER: We are developing an analysis which includes the costs involved in microfilming of documents for archival purposes, purchasing additional microcomputers for the staff, replacing the single function word processing workstations and terminals, implementing a document imaging system, upgrading microcomputers to serve as imaging workstations, and the costs of converting current active applications to optical disks to improve current access to the information and to provide for long term storage.

We have qualified systems design specialists, but not in yet adequate numbers to fully support the rapidly increasing need for automation. Although the level of automation and the need for support has increased dramatically in the last several years and will likely continue to do so for the foreseeable future, there is also pressure to keep up the skills of the existing staff, to sustain necessary space for staff and equipment, and maintain the number of staff to support a rapidly evolving system which is becoming more dependent on information resources technology daily.

## Urethane

QUESTION: The Committee has requested that FDA publish information regarding the urethane content of alcoholic products in the marketplace. Understanding the FDA plans soon to publish in the Federal Register the status of its voluntary agreements with the wine industry, will information on the availability of product-by-product analysis of urethane be published simultaneously?

ANSWER: Yes, our Federal Register notice will include information about urethane and alcohol and about what the industry is doing, and about the availability of product-by-product analyses, to the extent FDA has such information.

QUESTION: Will this information be published within this fiscal year?

ANSWER: We will begin drafting a Federal Register notice in early May. Unless something unforeseen delays matters, we expect publication during this fiscal year.

QUESTION: Will the Federal Register notice be designed to aid interested consumers who wish to seek more information about urethane?

ANSWER: Yes it will. Our Federal Register notice will include an address for interested persons to write for additional information on the subject of urethane and alcohol.

## Initiatives of CDER to Improve the Quality and Timeliness of its Drug Review Process

QUESTION: The Center for Drug Evaluation and Research has not prepared a plan which prescribes a strategy for improving the quality and timeliness of its drug review and approval process. The Center does, however, recognize the need for improving its management of this process and has been pursuing several initiatives with the intent of achieving some improvements. Examples include (1) converting stand-alone, software application systems to an integrated, data base management system, (2) publishing guidelines for drug firms to use to submit drug applications electronically, (3) proposing pilot tests of document image processing technology, (4) forecasting future review workload, (5) revising regulations, and (6) supporting the establishment of the Foundation for Research and Training in Regulatory Drug Evaluation Sciences. How do these initiatives interrelate and/or contribute, if at all, to some "grand plan" which the Center may have to increase the quality and timeliness of drug reviews? If there is such a plan, is it documented?

ANSWER: The FDA Action Plan serves as the agency's "grand plan" for activities of the Center for Drug Evaluation and Research. The Center, through the Action Plan, coordinates some of the various initiatives which are targeted toward improving the drug process, including implementing the initiatives to ensure the expeditious evaluation of drugs for patients with life-threatening diseases; expanding the use of treatment INDs; improving the quality, efficiency, and timeliness of the IND, NDA, and ANDA reviews; exploring and encouraging the use of computer assisted NDAs (CANDAs); and increasing efforts to recruit and retain drug reviewers. Action Plan Phase III is now being formulated and will be available for distribution in the near future.

Specifically, improving the quality and timeliness of drug reviews is an ongoing process. There is no formal plan per se that gives rise to all specific initiatives. However, the Center is always looking for new and creative ways to improve the process, such as the implementation of an NDA Day whereby review scientists and management gather to discuss a single NDA to resolve questions related to its approval in a single day-long review that eliminates successive reviews. The Center also implements pilot or experimental changes on a limited basis to see if they will have some benefit. Center management's plan is to constantly be on the lookout for ways to improve the process and we are constantly monitoring changes to measure their effect.

In addition, a new professional development staff has been established to improve the recruitment, training, and retention of scientific review staff. We have also established a new research organization to respond to regulatory review needs.

QUESTION: What milestone or target dates has the Center established for making critical decisions relating to any or all of the initiatives? For example, at which point(s) will the Center make a decision to adopt, abandon, or continue pilot testing document image processing technology?

ANSWER: The Center is now developing a plan for a document imaging system. The plan will include major milestones, beginning with a pilot test of the technology in the Division of Anti-Viral Drug Products with anti-AIDS drug products. Decision points will be defined in that document.

In addition, there is a major ongoing effort in the Center to convert stand-alone application systems to an integrated relational database management system, the Centerwide ORACLE Management Information System (COMIS). This system, which is operational, allows efficiencies in storage and retrieval of information and in providing accurate and up-to-date information to users throughout the Center from a single system. Enhancements are being made to the system and additional applications added to it.

QUESTION: How has the Center been monitoring and documenting the progress of the above initiatives? What tests or measures of performance is the Center using (or will the Center use) to determine the successful achievement of the objectives of any or all of the above initiatives?

ANSWER: To monitor and document progress of FDA Action Plan Phases I and II initiatives, we established an Action Plan Reporting and Evaluation System (APRES). Under APRES, progress reports on accomplishments are tracked on a monthly basis. Status reports are prepared, activities monitored, and a report summarizing the completed activities forwarded to the Commissioner. We also hold quarterly meetings to report on the Action Plan in which each Center presents accomplishments and problems encountered in completing an activity. At the end of each phase, a summary document describing all of the agency's accomplishments is prepared and distributed for the Agency's use. Phase III milestones of the Action Plan will be tracked and monitored in the same manner. The NDA review time will continue to be monitored under COMIS. The computer assisted NDA reviews are monitored within each division by the division Director. Progress is also followed closely by office and Center management. A contract has been awarded by the Pharmaceutical Manufacturer's Association to evaluate all of the CANDAs submitted to date. In addition, the industry itself has given feedback to us regarding the applications submitted and all of the applicants that have already submitted a CANDA either have or plan to submit additional CANDAs.

The Center will indicate in the plan currently being developed how it intends to monitor the initiative on document imaging systems. The Center will also monitor achievements and report on them regularly.

QUESTION: What are the major obstacles to the Center's pursuing any of the above initiatives?

ANSWER: The major obstacles facing the Center in pursuing these objectives are finding and employing the necessary level of expertise, particularly in systems design, implementation, and analysis, and competing priorities for resources, especially for adequately trained and knowledgeable staff.

## Critical Space Shortage

QUESTION: FDA's Center for Drug Evaluation and Research is responsible for the review, analysis, approval and disapproval of massive volumes of paper (mostly applications) relating to human drugs. Currently, at FDA, as well as at the Federal Records Center -- which GSA maintains, there is a critical shortage of space for storing the applications. At the Federal Records Center, retention periods for previously-reviewed drug applications have expired, and GSA would like to either destroy the applications or return them to FDA. By law, and because we believe there is valuable data in these files, FDA must retain, indefinitely, all the applications it ever reviewed over the past fifty years. As a result of the critical shortage of space, there is no room to store these applications at FDA. The FDA has considered/is considering using document image processing technology to solve the problem. What other alternative(s) is FDA considering to solve the application storage problem? When did/will FDA decide which alternative(s) it will pursue? How likely it is that the FDA will opt to go with a document image processing system to solve the problem?

ANSWER: FDA is considering converting many documents at the Federal Records Center that have little or no activity to microfilm. The use of optical disks is also being considered for some documents. The only other alternative under consideration is to find additional space outside of the Parklawn Building and the Park Building for document storage coupled with a messenger service to deliver documents when needed within a reasonable period of time.

The Center will decide on its approach within the next month or so. In all likelihood, a pilot project will be pursued in the Division of Anti-Viral Drug Products. The Center is likely to proceed with a document image processing system to solve some of its information processing requirements.

QUESTION: What are FDA's contingency plans to meet storage needs between the time the Federal Records Center returns the documents to FDA and the time FDA adopts and implements some automated system (i.e., a document image processing system) or other alternative solution?

ANSWER: FDA is seeking to delay the return of the documents with expired retention periods from the Federal Records Center. As discussed above, conversion and storage of these old documents, possibly to microfilm is being investigated, as well as the use of optical disk technology. If the Federal Records Center cannot delay the return, we will have to arrange for storage in rented space.

QUESTION: What are the major obstacles to FDA's solving the above problem?

ANSWER: The single biggest obstacle to solving this problem is the cost of converting the large volume of documents involved and other competing priorities for available resources. There are currently 10,000 boxes or approximately 30,000,000 pages of documents at the Federal Records Center. A very preliminary estimate of the cost to convert this material to microfilm is approximately $1,000,000. The cost to convert this old material to optical disks would be significantly more and may not be warranted. If the need existed in the future for some small portion of that data to be on optical disks, the conversion could be done at that point at a fraction of the cost.

## QUESTIONS SUBMITTED BY SENATOR BUMPERS

### Recruitment of Regulatory Review Staff

QUESTION: Last year I introduced an amendment to assist the FDA by providing training grants in the area of regulatory review medicine because it was my understanding that the agency was having serious difficulty recruiting medical officers and other scientists with the skills necessary in the review process. Since that amendment did not survive in conference, I insisted on language in the conference report directing the FDA to provide a report on the problems you face in recruiting regulatory review staff. I did so because it was my understanding that the problem in this area was clear-cut. I cannot understand why, six months later, we have not received a report. Could you tell me when the FDA will issue this report?

ANSWER: A draft report is currently undergoing review. We are hopeful that the report can be issued in May.

### Drug Application Reviews

QUESTION: The FDA has stated that accelerating the new drug review process is essential. I understand that the paperwork necessary for drug reviews is overwhelming, and I am interested in your plans to computerize the review process. Have you taken any steps to design a computer system that will meet the future demands on the agency?

ANSWER: The Center for Drug Evaluation and Research has developed a plan for the period 1991 through 1995 for internal use which describes the current status of information resource management in the Center, its planned initiatives, deficiencies in systems and operations needing attention and its program directions for this period, and implications for ADP support. The plan identifies the improvements planned, including use of microcomputers, minicomputers, mainframes and Ethernet local area networks, as well as introduction of imaging systems and expansion of computer assisted review efforts. Other improvements include the expanded uses of small local area networks to enhance transfer of data and improve communication and sharing of peripheral equipment. The Center is expanding the plan through efforts of its ADP Policy Advisory Committee. In addition, a more detailed plan with respect to use of microfilm, imaging systems, microcomputers and the replacement of single function word processing work stations with multifunction work stations is being developed for incorporation into the master plan.

We are working with the Pharmaceutical Manufacturer's Association (PMA) to assess the feasibility of the submission of new drug applications in an automated format. The automated submissions, known as Computer Assisted NDAs (CANDAs) can take any number of forms. We are experimenting with a variety of approaches to see which are most helpful. We are willing to allow direct access by reviewers to the applicant's mainframe, direct access to a third party mainframe, review of the application on a microcomputer in the reviewer's office, review of the application on an Agency mainframe or the review of the application an optical disk. The CANDA can also be a combination of these methods. A CANDA might also include the provision of an electronic mail system or use of facsimile with the applicant to speed the communications regarding a submission. One of the significant benefits to the availability of automated communications is the reduction of the turn around time between an Agency request for information and the applicant response. Submission still require a large amount of paper. However, in the future, it might be possible to require that only a relatively small amount of paper actually be submitted, with the bulk of the submission, including the case reports, submitted in an automated form.

QUESTION: Do you have on your staff any specialists who could design a system that would streamline the process?

ANSWER: We do have qualified systems design specialists. If necessary and affordable, additional computer system expertise could be contracted for from outside the agency.

QUESTION: Is it possible that a computer system that could handle such a load would make it possible to divert human resources to other areas within the agency?

ANSWER: In the long run, a well-designed system should free up some staff time, particularly in the support and clerical areas. However, a full complement of reviewers is still required to achieve the reduction in review time which is our goal. For the foreseeable future, there remains pressure to keep up the skills of the existing staff, to sustain necessary space for staff and equipment, and to maintain the number of staff to support a rapidly evolving system which is becoming more dependent on information resources technology daily.

## Cost of Medical Device Review

QUESTION: Review of new medical devices takes place primarily in the Office of Device Evaluation. Would you supply for the record the costs of operating this office over the past 12 months? It would be helpful if we could have those costs broken down for each of the operating divisions of the Office of Device Evaluation.

ANSWER: Following are the approximate annual costs and FTEs in the Office of Device Evaluation. In addition, it should be noted that other offices within the Center contribute to the review of product applications. For example, four FTEs in the CDRH Office of Management Services are needed to manage the Advisory Panels which are required by the law to review PMAs. In The CDRH Office of Science and Technology, 34 staffyears are used to conduct statistical evaluation of PMAs.

Office of Device Evaluation

| | FTEs | - $million |
|---|---|---|
| Office of Director/ Program Management | 13 | $ .8 |
| Document Center | 26 | 1.6 |
| Div. of Gastroenterology/Urology, and General Use Devices | 22 | 1.4 |
| Div. of Cardiovascular Devices | 28 | 1.7 |
| Div. of Obstetrics/Gynecology, Ear, Nose, Throat and Dental Devices | 17 | 1.1 |
| Div. of Surgical and Rehabilitation Devices | 35 | 2.2 |
| Div. of Ophthalmic Devices | 33 | 2.0 |
| Div. of Anesthesiology, Neurology and Radiology Devices | 24 | 1.5 |
| Div. of Clinical Laboratory Devices | 28 | 1.7 |
| | 226 | $14.0 |

---

## QUESTIONS SUBMITTED BY SENATOR HARKIN

### Space and Facilities

QUESTION: Dr. Young, as Chairman of the Labor-HHS Subcommittee, I am responsible for several PHS agencies who carry out very complex missions, such as research at the NIH and ADAMHA. One of my biggest concerns is that we get the fruits of our research into use by consumers quickly. In that light, it is imperative that we find ways to speed up the approval process at the FDA without jeopardizing public safety. The FDA is located in 23 separate buildings in 7 different geographic sites - one of your laboratories is operating out of a renovated chicken coop. In your opinion, does the lack of a consolidated facility or a FDA campus hamper the effectiveness or the efficiency of the agency in any way?

ANSWER: Yes, FDA's metropolitan components are currently scattered among 23 buildings, or groups of buildings, at seven sites in the Washington area. The work of the agency is affected in the following manner: coordination of and interaction suffers with scattered staff, which means a less effective work force; new product reviews and other programs are hampered by delays in routing documents; and transfer of ideas, information and scientific expertise suffer from restricted personal contact. Also, much staff time is wasted traveling to needed meetings.

QUESTION: In your response can you specifically include the impact with respect to approval times for new product applications and the recruitment and retention of employees.

ANSWER: The impact of geographical distribution of staff on product application review times is difficult to measure. However, in many cases days are added to the process while documents are routed to other locations for review or concurrence, or while records in one location must be transferred to another. Perhaps more important is the impact of space and facilities on recruitment and retention, which have a very direct impact on product review. The agency believes that FDA's facilities have a negative impact on recruiting and retaining top scientific talent, although that might not be stated as a reason by the individual.

QUESTION: Dr. Young, when was the last time that the FDA had appropriated funds for upgrading research facilities and equipment? Was this funding adequate to meet the needs of the FDA? If not, does the current 1990 President's Budget proposal have the necessary funds?

ANSWER: Regarding equipment, the 1990 request includes program increases of over $18 million, a substantial portion of which is for equipment. The total 1990 request, not including the separate request for AIDS, includes $14.8 million for all types of equipment for FDA. This request will enable FDA to continue to provide selected new laboratory and other equipment to replace outdated items and take advantage of new technology.

Regarding facilities, FDA received $22.5 million in the 1989 appropriation for a new building for the agency's AIDS work. Except for 1982 and 1983, FDA has received some funds every year for repair and improvement projects for its various facilities. In recent years, the annual appropriation for this purpose has often been $1.5 million. While this is less than 1% of the replacement value of FDA's facilities, it will enable us to carry out the most pressing repair and improvement needs.

## Personnel

QUESTION: Dr. Young, ten years ago, the FDA had 8,089 employees. In 1989, the FDA has approximately 7,300 employees -or 900 fewer. In addition, the FDA has had 23 new laws enacted which has expanded its responsibilities during that same time period. How have the staffing decreases in the past ten years affected the FDA in terms of field staff to manage emergencies such as tampering of drugs or fruit? Approval of new product applications? Expansion of FDA programs to meet emerging trends, such as biotechnology?

ANSWER. FDA has taken a number of actions to reduce personnel needs over the past 10 years. These include contracting for support services and other management initiatives to reduce the need for support staff. More importantly, the agency has taken many steps to streamline its operations and reduce unnecessary work. For example, in the review of applications for new drugs and medical devices, FDA has streamlined its procedures, strived to increase the use of automation, and developed new guidelines for industry to reduce unnecessary paperwork and improve communication. In addition, some lower priority activities have been terminated or scaled back.

With respect to emergencies, FDA does have approximately 20% fewer Field staff than ten years ago. FDA has taken a number of steps over this period to streamline inspectional operations, increase the efficiency of laboratory product testing, and target the agency's Field resources more effectively. Emergencies such as the recent tampering incident with Chilean fruit always tax the agency's ability to respond but will always receive top priority. Fortunately, FDA was able mobilize almost all of its Philadelphia inspectional staff, and bring in staff from other offices, to conduct the screening and supervision that was essential to allow Chilean product back on the marketplace. However, this effort took at least fifty staffyears, meaning that other scheduled inspections did not get done.

It should also be noted that emergencies often lead to a continued workload for the agency. This most recent crisis with Chilean fruit has made the agency aware that it must devote laboratory work to studying how poisons react in different types of foods. In both 1982 and 1986, tampering incidents (both real and alleged) not only produced immediate crises for FDA, but continuing work on following incidents and efforts to prevent tampering. In 1988, problems discovered with blood bank procedures required an immediate effort to inspect all such facilities, combined with the need to sustain and enhance the level of inspection and guidance that is necessary to protect the safety of the blood supply. While FDA has fewer staff than it had in the past, we have so far been able to respond to the crises that have occurred in recent years. But we do this on occasion at the expense of our traditional inspection and enforcement activities.

With respect to application review and biotechnology, staffing reductions have limited FDA's progress in making program improvements and keeping up with technology. The 1990 request includes increases for biotechnology and for drug and device review.

## User Fees

QUESTION: Dr. Young, in the 1990 President's Budget Request, funding for the FDA assumes about $100 million in user fees to provide revenue for the FDA. The Administration has developed the user fee proposal for the generation of revenue in order to maintain their promise of no new taxes. I am concerned about the user fee proposal for a variety of reasons and in that regard would like to ask you several questions about the impact that this proposal, if adopted, might have on the FDA. In you professional opinion, does a user fee proposal for the FDA -- in essence the funding of a regulatory agency by the regulatory industry -- present a conflict of interest?

ANSWER: Our proposal is to charge fees for new product applications because those who submit such applications do so voluntarily and almost always because they see a clear profit potential. Except in the case of what are known as orphan products, some which would likely to be exempt from fees, the fee paid to FDA would in most cases be a small fraction of the projected revenue the manufacturer expects to receive from the product in just the first year. There are many other cases where industry pays for direct government services, such as fees the Federal Communications Commission and the Nuclear Regulatory Commission charge for processing licensing and tariff applications. We believe that our proposed fees compared to the tremendous scope of the industries we regulate, would not have a significant impact either on the firms or on innovation.

QUESTION: In your professional opinion, would the implementation of such a proposal have any effect on the stability of programming at the FDA? What would happen in the event that FDA did not collect the projected $100 million? Which services would be jeopardized, if any? Would you request a supplemental appropriation to cover the shortfall?

ANSWER: If user fee collections were substantially less than $100 million, and additional appropriations were not provided, then significant reductions would have to be made in program operations. It is likely that such reductions would impact on FDA's drug review and AIDS programs, to the extent they depended on user fees for funding.

We do not know if the fees would have an impact on the submission of applications by the regulated industries. If there were a shortfall in a given year, the agency would have to defer some purchases until revenue were available, or utilize revenue carried over from a prior year.

In either case, the agency would seek Administration support for a supplemental appropriation if that were necessary to sustain FDA's programs.

QUESTION: In your professional opinion, would a user fee proposal create a disproportional negative effect on small companies to become involved to drug companies?

ANSWER: We really do not have any good data on the effect of user fees on small companies. The Administration's proposal, however, would allow the Secretary to make exemptions for user fee requirements. It is possible that criteria would be established to exempt some small companies from such fees.

## QUESTIONS SUBMITTED BY SENATOR ADAMS

### Aldicarb

QUESTION: There has recently been a controversy regarding preliminary reports about the health effects of aldicarb, which is used on, among other crops, potatoes. What is the FDA's position on whether it is safe for the public to eat potatoes?

ANSWER: As you know, EPA has the responsibility of assessing dietary risks resulting from the use of pesticides. It has recently been reported that EPA's decision with regard to cancellation or retention of aldicarb uses on potatoes may depend to a large degree on the outcome of the review of the risk assessment and related new methodology utilized by the FIFRA Scientific Advisory Panel (SAP). SAP is scheduled to consider the matter in a meeting scheduled May 9, 1989; the SAP review will occur prior to issuance of EPA's proposed regulatory decision on aldicarb.

EPA's Office of Pesticide Programs had originally scheduled the proposed aldicarb dietary regulatory decision for March, 1989; it has now been postponed until at least August, 1989.

Dr. Jack Moore, Acting Deputy Administrator at EPA, recently stated: "I see no basis for any undue concern at this time about eating bananas or potatoes. The approach developed by the agency for estimating possible acute dietary risk to children uses a new methodology. This approach, however, must undergo independent scientific peer review before any conclusions are reached. If the staff's analysis is correct, however, it does not suggest any life-threatening health risks or even any widespread health problems. Rather, it would cause discussion as to whether the reduced safety margin is adequate to protect all those exposed, including infants and children."

As you also know, FDA has the responsibility for ensuring that foods shipped in interstate commerce do not have pesticide residue levels in excess of tolerance levels established by EPA.

FDA monitoring of thousands of samples for residues of aldicarb and its metabolites has revealed very few residue levels that exceeded EPA tolerances. However, there have been several incidents involving aldicarb on crops for which there is no registered use (e.g., cucumbers; watermelons).

FDA has monitored for residues of aldicarb and its metabolites for many years, both in domestic and import compliance program efforts and in the Total Diet Study. For FY 86 through FY 89 to date (data reported as of March 7, 1989), 4225 domestic and import samples representing 170 food commodities were analyzed by methods that would detect aldicarb and its metabolites, aldoxycarb and aldicarb sulfoxide. The breakout by FY is as follows:

| FY | Domestic Spls Analyzed | Import Spls Analyzed | Total Spls Analyzed |
|---|---|---|---|
| 86 | 1008 | 807 | 1815 |
| 87 | 352 | 370 | 722 |
| 88 | 648 | 552 | 1200 |
| 89 (thru 3/7) | 144 | 344 | 488 |
| Totals | 2152 | 2073 | 4225 |

Of the 4225 samples analyzed, 4144 (98%) contained no detectable residues of aldicarb, aldoxycarb or aldicarb sulfoxide. The only violative findings involved one episode of misuse on cucumbers in a Redding, California greenhouse.

## FDA Potato Monitoring Data

For FY 86-FY 89 to date, 343 potato samples (335 domestic, 8 import) were analyzed by methods that would detect aldicarb, aldoxycarb or aldicarb sulfoxide. No violative findings were detected (EPA tolerance for potatoes is 1 ppm total aldicarb residues). No detectable residues were reported in 287 samples (84%). Trace levels to 0.71 ppm total aldicarb residues were found in 56 domestic samples.

## FDA Total Diet Study Data

From April 1982 - April 1988, 72 table ready foods from each of 24 market baskets (a total of 1728 analyses) were analyzed by methodology that would detect aldicarb, aldoxycarb and aldicarb sulfoxide. Included in the items analyzed in each market basket were several potato food items, including french fries, mashed potatoes, boiled and baked potatoes, potato chips, scalloped potatoes, and sweet potatoes. Only one low level finding was reported in potato-related table-ready foods; 0.011 ppm aldicarb in one sample of boiled potatoes.

The table below shows the magnitude of some of FDA's monitoring efforts for aldicarb over the last few years.

Foods Analyzed by Methods Capable of Detecting Aldicarb
and Metabolites
FY86-89 (Thru 3/7/89)
(100 or More Samples Only)

| | |
|---|---|
| Potatoes | 343 |
| Peppers | 257 |
| Tomatoes | 250 |
| Cucumbers | 232 |
| Strawberries | 225 |
| Squash | 167 |
| Pineapple | 151 |
| Apples | 149 |
| Cantaloupe | 149 |
| Watermelon | 142 |
| Broccoli | 109 |
| Oranges | 108 |
| Cabbage | 105 |
| Carrots | 100 |

NOTE: Not all of these commodities have registered uses for aldicarb.

Conclusion: In view of FDA's monitoring results, it would appear that aldicarb residues in potatoes does not present a problem.

## Pesticides

QUESTION: The FDA is responsible for testing residue levels of pesticides in food to ensure that tolerance levels meet EPA standards. What is the current level of resources, in terms of man-hours and funding, that the FDA devotes to this task? What percentage of the nation's food supply is tested by the FDA for chemical residue?

ANSWER: FDA devotes approximately 360 full-time equivalent staffyears (FTE) to pesticide monitoring and related work, at a cost of about $23 million. In addition to product sample collection and laboratory analysis, this includes development of testing methods, collection of data on pesticide use in this and other countries, and other activities designed to improve FDA's pesticide monitoring and target our resources most effectively. In Fiscal 1988, FDA tested about 19,000 samples for pesticide residues, and the majority of these were imported products. Since FDA does not receive data on food shipments within this country, and we have limited data on the precise numbers of lots and shipments imported, we do not know the precise percentage of the food supply that is tested, but it is well under 10%. However, FDA's testing of both domestic and imported products, and FDA's Total Diet survey of the food supply, show that violation rates are low and that, overall, pesticide residues do not present a significant health risk.

## Alar in Apples

QUESTION: I am particularly concerned about the recent controversy over alar in apples. At one point there was great concern about apples in school lunch programs, and several school systems temporarily pulled apples off of their menus. Is the FDA involved at all in testing foods used in school lunch programs? What type of coordination exists between the FDA and USDA in making sure the food served through school lunch programs is safe?

ANSWER: FDA has no direct involvement with the school lunch program. We do, however, work very closely and effectively with USDA on a number of food-related matters of mutual interest. FDA's inspection and testing programs are designed to assure that the entire food supply is safe, except of course, for those foods regulated under the jurisdiction of USDA (i.e. meat, poultry, and eggs). In the case of alar, the Commissioner and others have made extensive efforts to assure the public that apples do not present a risk.

QUESTION: EPA has set the tolerance levels at parts per million, but it is my understanding that environmental groups are using studies that can sometimes show chemical traces in amounts as small as parts per billion. What are the differences in the testing methods used by these groups, and those used by the FDA? Does the FDA have the ability to test for parts per billion? What are the FDA's opinions about the reliability of these new testing methods? Does being able to determine trace amounts in parts per billion as opposed to parts per million make any difference as far as public health is concerned? Does the FDA have any plans to upgrade or alter its testing methods?

ANSWER: For over 25 years, the FDA has employed methods in its program to monitor pesticide residues in foods, with emphasis on raw agricultural commodities, that can generally determine levels of 0.01 ppm (10 ppb) or lower. In FDA's Total Diet Program, which focuses on pesticide residues in table-ready foods, the same basic methodology is used and levels of 0.001 ppm (1 ppb) are routinely measured. The only difference in measurement levels is dictated by the objectives of the Programs, not by the methods employed. The prime Monitoring Program objective is to determine compliance with legal tolerances established by EPA and as an important by product, to determine the incidence and levels of pesticides in or on food. The Total Diet Program objective on the other hand, is to measure dietary intake of pesticide residues in foods as normally consumed. Both Programs require that reportable pesticide residues must be confirmable by an independent test to avoid the possibility of misidentification. In general, efforts needed to confirm levels below 0.01 ppm (10 ppb) for compliance monitoring purposes cannot be justified in view of the focus of the program, which is regulatory.

The FDA has historically upgraded and refined its testing methods in both the Monitoring and Total Diet Programs in terms of increasing efficiency and extending coverage to include other potential pesticide residues. A detailed long range plan describing FDA research efforts to further improve or develop new methods has been drafted. This plan, which covers the next five years, was prepared to comply with a specific requirement of the "Pesticide Monitoring Improvements Act of 1988" and is currently undergoing Departmental (DHHS) review.

A common misconception is that an analytical result reported in units of parts per billion (ppb) was obtained with a method one thousand times more sensitive than one that reports results in parts per million (ppm). In reality, units used for reporting results is a convention chosen by the analyst or organization that performed the analysis and is not dependent on the method per se. For example, the same analytical result could be reported as 10 ppb, 0.01 ppm or 0.000001%.

## Imported Foods

QUESTION. The FDA is also responsible for insuring that food imported into this country is safe. What are the nature of the resources, in terms of man hours and funding, that the FDA puts into these efforts?

ANSWER: In FY 1988, FDA's field offices expended a total of 312,448 hours against plannable operations on import food activities. This amounts to a total of approximately 529 FTEs and a cost of about $31 million. In FY 1989 FDA expects to spend at least this much.

QUESTION: What percentage of food imported into this country is inspected by the FDA?

ANSWER: The Agency currently does not have the means to determine the percentage of food imported into the United States which is examined by FDA. While volume of formal entries of food products offered for entry is gathered by Customs, these figures do not include those entries valued at less than $1000, some of which are examined by FDA. The most current Customs data available to FDA, from 1987, indicates that approximately $22.847 billion worth of food products were imported into the U.S. This amount includes vitamin and mineral supplements, food additives, ceramic and other food storage products, and cosmetics. Since FDA does not record the dollar value of lots examined by the Agency, we cannot provide a precise percentage of the amount we examined, although estimates range from 4-6%.

QUESTION: Does the FDA have any methods of targeting food from certain problem areas so it can better target its resources?

ANSWER: FDA has, since the beginning of its monitoring program for pesticides in imported foods, directed proportionately greater sampling toward particular growers, exporters, importers or countries whose products have had sporadic or chronic violative histories with regard to pesticide residues. When FDA's routine or "surveillance" sampling and analyses finds a shipment of a particular product from a grower/exporter with a pesticide residue in violation of an EPA tolerance, FDA, in addition to taking action against the particular shipment, will generally collect additional "compliance" samples of the product to determine if the particular violation represents an isolated problem with a single shipment, or whether the finding represents a wider residue problem.

For imported foods, if FDA determines that an actionable sample represents a significant pesticide violation on a food of dietary significance, it may elect to invoke "automatic detention" or "certification status". This provision requires that future shipments of that product from the particular grower/exporter be accompanied by certificates of analysis by independent laboratories showing that the product (each shipment) no longer violates the particular EPA tolerance. Usually, certification status is invoked against specific growers/exporters and only for the particular product with a history of violations. However, when a residue problem is judged by FDA to be significant and widespread within a particular country, FDA may invoke "country wide" certification, requiring that all products from a particular country be accompanied by documentation demonstrating compliance with United States pesticide regulations.

Using the "past violative history" and "certification status" approaches described above, FDA is able to direct an appropriate proportion of its pesticide monitoring resources toward those products and individual growers, exporters and countries thought most likely to give rise to actionable samples.

QUESTION: Does the FDA have any way of finding out where chemicals illegal in this country, but legal overseas, are used so that it can pay more attention to food coming from those areas?

ANSWER: Since 1986, FDA has subscribed to the Battelle World Agrochemical Databank which provides the Agency with data on pesticide usage in a number of countries. Information from this databank has been provided to FDA Field Offices to assist them with preparation of sampling plans for imported foods. FDA headquarters offices also use the Battelle data to assist with preparation of special surveys to examine residues on products from countries included in the databank, e.g., bananas from Central and South America.

The Battelle databank does not indicate which pesticides are "legal overseas". To better determine which pesticides might be used "legally" in other countries, FDA has acquired a document from Health and Welfare Canada which provides "national residue limits" for more than thirty countries. In addition, FDA has available the listing of Codex Alimentarius pesticide "maximum residue limits" which many countries may use as their own "legal" pesticide usage in various countries along with the Battelle foreign usage databank and United States Customs food import data, FDA is now better able to direct sampling and analyses toward potential residue violations.

Finally, on August 23, 1988 the Pesticide Monitoring Improvements Act (PMIA) became law. One provision of PMIA directs FDA to enter into "cooperative agreements" with the governments of foreign countries which are the major exporters of FDA regulated foods to the United States for the purpose of obtaining foreign pesticide usage information. FDA is now in the process of meeting with representatives of more than thirty countries to explain PMIA and to ask for their cooperation. FDA expects that many of these countries will agree to provide information on pesticide usage.

With the data and other information provided by the above sources, FDA will be able to better direct its pesticide sampling and analyses toward those products and countries with the highest potential for significant pesticide residue problems.

QUESTION: Are there any changes in existing statutes that the FDA believes would enable it to do a better job in this area?

ANSWER: FDA does not believe that additional or modified legislation regarding FDA pesticide residue monitoring activities is warranted or desirable at this time. The Agency believes that new legislation directed at treating residues on imports differently from those on domestically produced foods would be looked on as an artificial trade barrier by foreign countries. The provisions of PMIA and FDA's own initiatives will provide the pesticide usage information necessary to conduct an effective import monitoring program.

## Imported Seafood

QUESTION: President Reagan's budget proposed a $600,000 increase to expand surveillance of imported seafood. Is this proposed increase supported by the Bush administration? If so, what is the nature of the problem of health risks in imported seafood?

ANSWER: Yes, this proposed increase is supported by the Administration. The types of health risks that are presented by imported seafood are essentially the same as that presented by domestic seafood. These include such problems as the presence of excessive mercury in swordfish, Salmonella contamination, and botulism. An important difference however, between domestic and imported seafood is that FDA does not have the statutory authority to inspect foreign seafood producers. Thus, it is much more important to examine imported seafood than domestic seafood.

QUESTION: How does the FDA intend to use these funds to address this problem?

ANSWER: FDA will use these funds to expand our current methods of regulating imported seafood. Of the approximately 167,000 seafood entries, FDA presently conducts about 4,500 wharf examinations per year. In addition to the wharf exams, about 4,500-5,300 imported seafood samples are collected and analyzed each year. FDA also deals with import problems by automatically detaining products with a history of violations, where there is no reason to believe that the situation has changed. Another regulatory activity that should be mentioned involves negotiating Memoranda of Understanding (MOU) with major seafood exporting countries. By placing the responsibility on the exporting countries' governments to assure that their seafood shipments comply with all applicable FDA laws and regulations, FDA is able to conserve its resources. This increase will be used for increased sample purchases, testing equipment, and employee training.

QUESTION: The FDA has a field operational facility in Seattle, Washington that has a special emphasis in seafood products testing. Does the FDA intend to direct any of these new funds to this facility?

ANSWER: It is likely that a portion of these funds will be spent on seafood activities at FDA's Seattle office.

## QUESTIONS SUBMITTED BY SENATOR FOWLER

### Generic Animal Drugs

QUESTION: Commissioner Young, last year the Congress enacted the Generic Animal Drug and Patent Term Restoration Act. You testified in support of that bill, did you not?

ANSWER: I did testify in support of the Generic Animal Drug and Patent Restoration Act both in July of 1986 and October of 1987.

QUESTION: The House Report, H.R. Rep. No. 100-972, states that implementation of the legislation "could cost about $3 million in each fiscal year year 1989 through 1993." I assume that is additional review officers and others in FDA's Center for Veterinary Medicine and your office--thirty-five people in all. Is that correct?

ANSWER: Our estimate at that time for full eventual implementation was 36 FTEs which includes primarily veterinary medical review officers.

QUESTION: Was money appropriated by the Congress to implement the law? Is there money in the Administration's FY 1990 budget designated to fund this program? Does the FDA need additional funds to implement this new animal drug program?

ANSWER: Within the 1990 budget requested, the agency plans to redirect between five and ten staffyears to carry out the highest priority tasks to implement this new law.

QUESTION: Commissioner Young, the generic animal drug law that was enacted last year is similar to a generic human drug law that was enacted in 1984, is that correct?

ANSWER: The generic human drug law enacted in 1984 is similar to the generic animal drug law although there are some significant differences. The animal drug law takes into consideration human food safety since residues of animal drugs in meat, milk and eggs also come into play when looking at animal drug safety.

QUESTION: What has been the experience with the generic human drug law, that is, what drug price savings have consumers received from that law?

ANSWER: The FDA has no responsibility for drug pricing and, we have no detailed comprehensive data on the actual impact of the generic human drug law on drug pricing. In 1985, the press reported estimates of $250 million in consumer savings. It is difficult to measure what effect the patent term restoration provisions may have had on drugs covered by those provisions.

QUESTION: Has the generic human drug law diminished research and development of new drugs by brand pharmaceutical companies?

ANSWER: We have no data on this subject either, but research and development activity does not appear to have lessened in the pharmaceutical industry as a result of enactment of the generic human drug law. In fact, 1988 research and development expenditures by the drug industry were reported to be at an all-time high, both in dollars and as a percentage of profits.

QUESTION: Can you tell us what kinds of drug price savings we might expect to result from full implementation of the generic animal drug law?

ANSWER: When fully implemented, the generic animal drug law is expected to will result in significant drug price savings, but we do not have any precise estimates.

QUESTION: Who will be the recipients of these savings from the generic animal drug law?

ANSWER: There will be many beneficiaries of animal drug price reductions. Two of these are the practicing veterinarian and the livestock producer. The decreased drug costs will, in turn, result in a reduction in livestock production costs, which will eventually pass on the consumer. Owners of companion animals will also benefit from reduction in cost of veterinary care, and increased availability of generic over-the-counter drugs.

## QUESTIONS SUBMITTED BY SENATOR KERREY

### Private Testing for Pesticide Residues

QUESTION: The recent publicity about pesticides in food has apparently given rise to a new growth industry: the private testing of food products to "guarantee" they do not contain harmful chemical residues.

While I recognize your agency's resource constraints, should FDA or some other government agency establish standards to ensure that these private companies are providing the protection that they are promising and consumers are seeking?

ANSWER: Generally speaking, the private testing you refer to in your question is duplication of FDA's efforts, revealing only that foods rarely contain excessive or harmful levels of pesticide residues. We believe that the results of this private testing, when used strictly as a marketing tool, may only serve to further undermine the public's confidence in the safety of the food supply.

Obviously it would be very resource intensive to ensure that private laboratories are doing an adequate job at testing food for pesticide residues. Such a program would require that the Agency continually audit these laboratories. The Association of Official Analytical Chemists had considered certifying private labs. However, it abandoned such plans when it found how cumbersome and complicated certification would be.

Indirectly, regulatory agencies may exercise control over or look into the practices of such laboratories. The Federal Trade Commission has the authority to regulate the truthfulness of any advertising of services to consumers. To the extent that the results of private testing is submitted to a regulatory agency, such as FDA, that agency may look into the validity of the testing data.

## User Fees for Import Inspections

QUESTION: As you may know, USDA's Animal and Plant Health Inspection Service (APHIS) has proposed to assess fees against all international passengers arriving in the U.S. in order to cover the full cost -- $66.5 million -- of the Agricultural Quarantine Inspection program, which guards U.S. agriculture against the introduction of dangerous pests and diseases.

In view of the resource constraints that limit FDA's ability to sample more than a tiny fraction of imported foods, has FDA considered assessing fees against food importers as a means of securing additional resources?

ANSWER: There has been some discussion of this concept within the agency. There is great appeal to the idea that importers should pay the cost of allowing their products into this country, processing operations. However, there are a number of complex issues regarding such possible fees, including how to charge them equitably among importers, and whether they would constitute a non-tariff trade barrier. Such fees could not be instituted under present law, and they are not included in the user fee legislative proposal transmitted to Congress in conjunction with FDA's 1990 request.

---

## QUESTIONS SUBMITTED BY SENATOR COCHRAN

### Product Review Process

QUESTION: For the past few years, Congress has provided extra funding for the product review process. The Center for Devices has been successful in eliminating its backlog of pending applications, and application review times have been coming down. You and the Center are to commended for this improvement. I realize that this was accomplished by shifting personnel from other areas at FDA into the review process. Is it true that these people will now be taken away from product review and that there will be, in effect, a reduction in the number of reviewers during the current fiscal year and into fiscal year 1990? What assurances do we have that this reduction won't lead to longer review times, and thus increase in the backlog of pending applications?

ANSWER: FDA is not reprogramming people away from the review area. We can't predict, with any assurance, that review times will not increase in the future, or that backlog of pending applications will not reappear though we will make every effort to prevent this from happening. The number of applications for all major submissions continues to increase, as does the complexity of many of these applications for all major submissions continues to increase, as does the complexity of many these applications, reflecting rapidly changing technology. However, The Center has effected changes to streamline the review process, including making improvements to the document handling process, preparing internal guidance for reviewers, publishing numerous guidance documents for manufacturers to follow, and exempting certain types of devices from the premarket notification requirements. Our efforts are now focused on maintaining improvements and at the present time, the backlog does not appear to be growing.

## Imported Agricultural Products

QUESTION: A short time ago, the media and public attention concerning health issues surrounding the toxic residues found in Chilean grapes underscored the need to make sure that imported produce meets the same standards concerning pesticide residues required of U.S. produced agricultural products. The Chilean grape crisis raises once again the broader question of the safety of imported produce generally and the U.S. consumer's ability to make an informed buying choice. In your opinion, what more can be done to implement a more effective system of checking imported produce for prohibited pesticide residue? What does Congress need to do to help in these efforts?

ANSWER: Using available resources, we believe that FDA has adequate procedures and controls to monitor the importation of produce and to detain those articles that may contain prohibited pesticide residues.

FDA will detain and refuse entry of any shipment that appears to contain an illegal pesticide residue. To further deter importation of violative produce, the agency frequently issues import alerts to its district offices advising them to automatically detain specific products that it believes may contain illegal residues. Automatic detention puts the burden on the importer to demonstrate that its product is not violative. In addition, FDA may recommend to Customs that triple damages be assessed against certain importers who distribute a shipment before FDA analysis is completed and who have previously been known to import violative produce.

Congress has played an active role through the various oversight committees. We are currently working to implement the Pesticide Monitoring Improvements Act that Congress passed last year. The Act addresses two areas of concern in FDA's monitoring for pesticides--data compilation and development of improved laboratory testing methods. The agency continues examine to the efficiency of its import monitoring operations and with with existing resources, find areas where our screening of imported produce for pesticides can be further improved.

## FDA Revitalization Legislation

QUESTION: It is my understanding that Senator Hatch is going to be introducing legislation — perhaps today — aimed at "revitalizing FDA". Are you familiar with that bill? Would you care to comment on it?

ANSWER: We are aware of this bill and have no comments at this time. I assume the Administration will be developing a response in the near future, and that FDA will have a chance to contribute to that response.

## Generic Animal Drug & Patent Term Restoration Act

QUESTION: Last year, Congress enacted the Generic Animal Drug and Patent Term Restoration Act (P.L. 100-670). I believe you testified in support of that bill, did you not? Is money included in the FY 1990 budget to fully implement this Act? Will additional veterinary medical review officers be required?

ANSWER: Yes, I did testify in support of this Act. Additional veterinary medical officers and other support staff will be needed to review the new generic animal drug applications under this Act, and there will be some workload required to process patent term extensions. Within the 1990 budget requested, FDA plans to redirect five to ten staffyears to carry out the highest priority tasks to implement this Act. It is too early to tell whether any further resources will be required; we expect we would re-evaluate our needs after we have some experience in implementing the law and the industry's response.

## Personnel

QUESTION. In the past ten years, 23 new laws have been passed which have expanded the authority and the responsibilities of the Food and Drug Administration. During this same period of time, staffing resources at the FDA have dropped (by 15% or almost 900 employees). What management or program changes has the FDA introduced to address this personnel shortfall? Has this situation had any effect on the response of the FDA to emergencies, the like of which we have just seen with regard to inspection of fruit for cyanide?

ANSWER. FDA has taken a number of actions to reduce personnel needs over the past ten years. These include contracting for support services and other management initiatives to reduce the need for support staff. More importantly, the agency has taken many steps to streamline its operations and reduce unnecessary work. For example, in the review of applications for new drugs and medical devices, FDA has streamlined its procedures, strived to increase the use of automation, and developed new guidelines for industry to reduce unnecessary paperwork and improve communication. In addition, some lower priority activities have been terminated or scaled back.

With respect to emergencies, FDA does have approximately 20% fewer Field staff than ten years ago. FDA has taken a number of steps over this period to streamline inspectional operations, increase the efficiency of laboratory product testing, and target the agency's Field resources more effectively. Emergencies such as the recent tampering incident with Chilean fruit always tax the agency's ability to respond but will always receive top priority. Fortunately, FDA was able mobilize almost all of its Philadelphia inspectional staff, and bring in staff from other offices, to conduct the screening and supervision that was essential to allow Chilean product back on the marketplace. However, this effort took at least fifty staffyears, meaning that other scheduled inspections did not get done.

It should also be noted that emergencies often lead to a continued workload for the agency. This most recent crisis with Chilean fruit has made the agency aware that it must devote laboratory work to studying how poisons react in different types of foods. In both 1982 and 1986, tampering incidents (both real and alleged) not only produced immediate crises for FDA, but continuing work on following incidents and efforts to prevent tampering. In 1988, problems discovered with blood bank procedures required an immediate effort to inspect all such facilities, combined with the need to sustain and enhance the level of inspection and guidance that is necessary to protect the safety of the blood supply. While FDA has fewer staff than it had in the past, we have so far been able to respond to the crises that have occurred in recent years. But we do this on occasion at the expense of our traditional inspection and enforcement activities.

## Space and Facilities

QUESTION: I believe that FDA's headquarters is presently housed in 23 separate buildings, or groups of buildings, in the metropolitan area. Is that in fact true?

ANSWER: Yes, FDA's metropolitan components are currently scattered among 23 buildings at seven sites in the Washington area.

QUESTION: What impact has the geographic distribution of these buildings had on the ability of FDA to carry out is mandated responsibilities?

ANSWER: The fragmentation and overcrowding of the FDA headquarters staff contributes to many problems. Among them are: (a) increased difficulties in coordination, consultation and the transfer of ideas, information and expertise between scientific personnel; (b) inefficient resource sharing, especially for expensive pieces of scientific equipment; (c) wasted time due to the need for local travel; and (d) diminished opportunities for consolidated service and support functions. Scientific interaction between the five Centers of FDA is becoming more important because of the interdependence of the scientific fields. For example, a device delivery system for drugs requires review by two Centers.

## Biotechnology

QUESTION: Dr. Young, last year this subcommittee discussed with you biotechnology and its emerging prominence in the development of products being referred to the FDA. In follow-up to that discussion, I have a few questions to ask you regarding the impact that you believe this growing field of research will have on the Food and Drug Administration.

First, could you please describe for me what you perceive to be the major changes that you foresee the area of biotechnology will have on the development of foods and drugs.

ANSWER: Biotechnology will revolutionize the food industry, agriculture, pharmaceuticals, and other industries. A 1988 study by FDA showed that 155 companies are already engaged in working on over 400 research and development food-related projects that involve the use of biotechnology. The study is a snapshot of the industry; it shows that some experts predict that many diverse food products will be available in the next few years. For example, in food processing, the survey experts identified four biotechnology project areas that will experience growth and productivity in the next few years. Research and development in food biotechnology is just beginning to yield products, e.g., food processing enzymes to make corn sweeteners and enzymes for cheese-making. Gene probes are being developed to detect such food pathogens as Salmonella and Listeria. Such advances will enable us to provide more control over the microbiological quality of food.

In the area of drugs, FDA envisions major changes in the way pharmaceuticals are produced and prescribed. In 5 to 10 years, as the genetic code is better understood, we will have the capacity to precisely tailor medicines for the individual, rather than taking chances with a drug that may only suit the average person.

Biotechnology has also made a major contribution to our war against AIDS. In a very short time, we have been able to understand much of the genetic complexity of this terrible virus and have begun to design new agents that might inhibit unique portions of the virus's function. Moreover, all our hopes for an effective vaccine now center around biotechnology products.

QUESTION: How is the FDA preparing to meet the challenges that you have outlined? How is it going to affect your resource needs? Do you have sufficient personnel? With the appropriate training?

ANSWER: Our ability to compete in biotechnology will be based in large part on the availability of trained and skilled people. FDA is convinced that an in-depth knowledge of a scientific field enables product reviewers to conduct quality reviews promptly, maintain appropriate safety standards, and give sponsors good advice. FDA is confident that we can meet this challenge. To enhance FDA's capabilities in this field, our 1990 request includes increases of over $14 million for biotechnology programs.

QUESTION: Does the FDA need to develop any particular strategy to ensure that the U.S. maintains a competitive edge in the area of biotechnology?

ANSWER: Although FDA believes there is no need for new laws to regulate biotechnology products, we do believe that the federal government could take a more active role in fostering and promoting the development of new biotech firms and facilitating the use of shared resources.

QUESTION: Are there any barriers to the marketing of our technologies in this field?

ANSWER: FDA is concerned that a lack of public support for the use of biotechnology processes and products may be a barrier to marketing technologies in this area. We believe that if the public does not have an understanding and ultimately, confidence in new technologies, neither the federal government nor the private sector can do its job. Although FDA believes public support for an aggressive national program in biotechnology exists, fears will always be present when new technologies are introduced. And those fears can interfere with scientific progress, even if the federal government does its best to reassure the public about the safety and effectiveness of new products. The federal government needs the public's support to move forward in the area of biotechnology. We believe the funds requested and our ongoing efforts to prepare FDA for these technologies will prevent FDA's regulatory responsibility from becoming a barrier to product innovation. Rather, we hope to provide assistance and guidance to foster the marketing of new products.

## EEC Ban on Growth Hormones

QUESTION: Those of us from livestock-producing areas are acutely aware of the European Economic Community's ban on beef growth-promoting hormones. Many of our constituents fear similar unscientific, protectionist reactions to other important animal health products -- and the EEC's ability to do so is likely to increase as their planned harmonization by 1992 progresses. How is FDA (and CVM) responding to these issues, and what sort of demands for personnel do the international activities entail?

ANSWER: The Center for Veterinary Medicine is currently working on a variety of international issues, including the EEC Hormone Ban and the EEC Single Internal Market initiatives dealing with harmonization. CVM is responding to the issue of the EEC Single Market initiative by reviewing EEC proposals and directives. This project is expected to involve approximately six FTE's in the Center for Veterinary Medicine who will be evaluating EEC standards and directives and assuring they harmonize with U.S. standards and tolerances.

## QUESTIONS SUBMITTED BY SENATOR MCCLURE

### Aldicarb

QUESTION: There are few issues in my state of Idaho which cause as much concern as the issue of potatoes. Because Idaho produces the most potatoes of any state in the nation, any problems or concerns about the safety of eating those potatoes is of major impact. Last week someone in the Environmental Protection Agency leaked information on a new methodology which EPA is reviewing which revises the way in which residues are calculated in vegetables and fruit. This methodology, which is experimental and is now being reviewed by other scientists for correctness of methodology, has created a problem for the potato growers in Idaho and other states. Like the unjust allegations against Alar on apples, the unjust allegations against the proper use of aldicarb on potatoes has unnecessarily created fear in the minds of the consuming public over the safety of our food supply.

As you noted in your statement, FDA has a responsibility to the public for food safety, and the fast actions your agency took in the Chilean grape problem is a sign that you take this responsibility very seriously. I understand that since September 1986, FDA has analyzed 247 samples of Idaho potatoes and potato products. Of these samples none have shown any detectable level of aldicarb or any of its metabolites. Is this true? Do you continue to test potatoes and potato products for aldicarb? What can FDA do to assure the consuming public that it is indeed safe to eat potatoes?

ANSWER: FDA has the responsibility for ensuring that foods shipped in interstate commerce do not have pesticide residue levels in excess of tolerance levels established by EPA. FDA employs several analytical procedures in determining aldicarb residues in potatoes.

FDA monitoring of thousands of samples for residues of aldicarb and its metabolites has revealed very few residue levels that exceeded EPA tolerances. However, there have been several incidents in what aldicarb has been found on crops (e.g., cucumbers; watermelons) for which there is no registered use of this pesticide.

FDA has monitored for residues of aldicarb and its metabolites for many years, both in domestic and import compliance program efforts and in the Total Diet Study. Data from FY 86 through March 7, 1989, show that FDA has analyzed 4225 domestic and import samples representing 170 food commodities by methods that would detect aldicarb and its metabolites, aldoxycarb and aldicarb sulfoxide. The breakout by FY is as follows:

| FY | Domestic Spls Analyzed | Import Spls Analyzed | Total Spls Analyzed |
|---|---|---|---|
| 86 | 1008 | 807 | 1815 |
| 87 | 352 | 370 | 722 |
| 88 | 648 | 552 | 1200 |
| 89 (thru 3/7) | 144 | 344 | 488 |
| Totals | 2152 | 2073 | 4225 |

Of the 4225 samples analyzed, 4144 (98%) contained no detectable residues of aldicarb, aldoxycarb or aldicarb sulfoxide. The only violative findings involved one episode of misuse on cucumbers in a Redding, California greenhouse.

FDA Potato Monitoring Data

From FY 86 to date, FDA has analyzed 343 potato samples (335 domestic, 8 import) by methods that would detect aldicarb, aldoxycarb or aldicarb sulfoxide. No violative findings were detected (EPA tolerance for potatoes is 1 ppm total aldicarb residues). No detectable residues were reported in 287 samples (84%). Trace levels to 0.71 ppm total aldicarb residues were found in the other 56 samples.

FDA Total Diet Study Data

From April 1982 - April 1988, 72 table ready foods from each of 24 market baskets (a total of 1728 analyses) were analyzed by methodology that would detect aldicarb, aldoxycarb and aldicarb sulfoxide. Included in the items analyzed in each market basket were several potato food items, including french fries, mashed potatoes, boiled and baked potatoes, potato chips, scalloped potatoes, and sweet potatoes. Only one low level finding was reported in potato-related table-ready foods; 0.011 ppm aldicarb in one sample of boiled potatoes.

The table below shows the magnitude of some of FDA's monitoring efforts for aldicarb over the last few years.

Foods Analyzed by Methods Capable of Detecting Aldicarb and Metabolites
FY86-89 (Thru 3/7/89)
(100 or More Samples Only)

| | |
|---|---|
| Potatoes | 343 |
| Peppers | 257 |
| Tomatoes | 250 |
| Cucumbers | 232 |
| Strawberries | 225 |
| Squash | 167 |
| Pineapple | 151 |
| Apples | 149 |
| Cantaloupe | 149 |
| Watermelon | 142 |
| Broccoli | 109 |
| Oranges | 108 |
| Cabbage | 105 |
| Carrots | 100 |

NOTE: Not all of these commodities have registered uses for aldicarb.

Conclusion: In view of FDA's monitoring results, it would appear that aldicarb residues in potatoes do not present a problem.

## Microbiological Survey of Potatoes

QUESTION: On an issue related to potatoes, could you please give me an update on the FDA study of microbiological in-process survey of dehydrated potatoes?

ANSWER: A microbiological processing survey was initiated in 1984 to assess the levels and changes of bacterial populations during processing of dehydrated potato products. A total of 18 plants were visited at 2 intervals approximately 6 months apart. After the first series of inspections, 16 firms were classified as "in compliance" and 2 were not. The survey was stopped at this point due to guidance in the Senate Committee Report on FDA's 1985 Appropriations. At this time FDA has no plans to resume microbiological studies of dehydrated potato processing operations.

QUESTION: Also as relates to potatoes, please give me an update on the current status of the use of sulfites in both fresh cut and processed potatoes.

ANSWER: On December 10, 1987, FDA published a proposal in the Federal Register (52 FR 46968) proposing to revoke the GRAS status of the use of sulfites on "fresh" potatoes served or sold unpackaged and unlabeled to consumers. We are currently evaluating the comments and preparing a final rule.

On December 19, 1988, FDA published a proposal in the Federal Register (53 FR 51065) proposing to affirm the GRAS status of the use of sulfites, with specific limitations, on canned, frozen and dehydrated potatoes. Based upon several requests from industry, the comment period for this proposal was extended to June 19, 1989. The agency will then evaluate the comments it receives and issue a final rule.

## Aldicarb

QUESTION: Does FSIS have any method of testing potatoes and potato products which could be used to test these products for aldicarb residues on a large scale? Could this data then be released to the general public showing how safe potatoes and potato products are?

ANSWER: FDA (not FSIS of USDA) has the responsibility for ensuring that foods shipped in interstate commerce do not have pesticide residue levels in excess of tolerance levels established by EPA. FDA employs several analytical procedures in determining aldicarb residues in potatoes, which, as discussed above, have been shown by FDA to be quite capable for use on a large scale.

FDA monitoring of thousands of samples for residues of aldicarb and its metabolites over many years has revealed very few residue levels that exceeded EPA tolerances. This information is available to the public. In view of FDA's monitoring results, it would appear that aldicarb residues in potatoes do not present a problem.

## QUESTIONS SUBMITTED BY SENATOR KASTEN

### Aflatoxin

QUESTION: A food safety question that is now starting to plague the dairy and corn industries is that of aflatoxin. What actually is the effect of aflatoxin on humans?

ANSWER: Most of our information on the effects of aflatoxin in humans comes from laboratory animal studies. One documented outbreak of human aflatoxicosis occurred in western India in 1974 (Krishnamachari et al., Lancet 1975 (1), 1061-1063). About 400 persons in 200 villages were affected, and 106 died. Dogs that ate the family diet were also affected. The outbreak was characterized by hepatitis with jaundice, rapidly developing ascites, portal hypertension, and a high mortality rate. Death was unusually sudden and in most instances was preceded by massive gastrointestinal bleeding. Microscopic examinations of human livers showed extensive bile-duct proliferation with periductal fibrosis.

The outbreak was attributed to aflatoxin contamination of the local corn crop which had been stored under adverse conditions due to unseasonable rains. The outbreak was confined to rural areas where the general nutrition level of the population was poor. It affected people who consumed 2-6 mg aflatoxin daily for several weeks.

Human exposure to aflatoxin at these levels in the United States has never been observed and is highly unlikely. Information on the effects of exposure to aflatoxin at low levels is not available for humans and varies among animal species and among strains of the same species. For example, the Shasta strain of rainbow trout will develop liver tumors after 20 months with as little as 0.5 ug/kg body weight aflatoxin B 1 in the diet, but the related Coho salmon were unaffected by 20 ug/kg body weight aflatoxin B 1 for the same period. Beef cattle showed no effect from 440 ug/kg body weight aflatoxin B 1 in their feed for 20 weeks. Among laboratory animals, the Fischer rat has proved to be almost as sensitive to aflatoxin hepatocarcinogenesis as the Shasta strain trout, developing liver carcinomas with aflatoxin B 1 incorporated in the diet at a level of 1 ug/kg.

Several epidemiology studies have been performed in areas of the world where aflatoxin contamination of the food supply is common in an attempt to correlate the effects of consumption of aflatoxin in the diet with incidence of liver cancer in humans. An attempt has also been made to correlate the incidence of liver cancer in the United States with levels of aflatoxin in the food supply. There is no consensus within the scientific community on the results of these studies. A number of problems were encountered in performing these studies, such as the relatively high incidence of hepatitis in some parts of the world. Furthermore, the ability to retrospectively estimate aflatoxin levels in the diet and to correlate those levels with the incidence of liver cancer remains problematic.

In general, the clinical signs of aflatoxicosis seen in the people exposed in India are similar to those seen in animals. Low level intoxication in animals has revealed generalized jaundice and cirrhosis of the liver with bile duct cell proliferation and periportal fibrosis. Liver pathology is the most characteristic and easily identifiable effect in most species (Mycotoxins in Human and Animal Health, 1977, ed. by Rodricks, Hesseltine, and Mehlman. Pathotox Pub., Ill.)

QUESTION: Do cows fed with aflatoxin-infected corn show increased levels of aflatoxin in their milk?

ANSWER: The aflatoxins are not normal constituents of milk. Aflatoxin M1, a hydroxylated metabolite of aflatoxin B1, appears in the milk of lactating cows that have ingested aflatoxin B1 in their feed. From recent studies, it has been found that, on average, an aflatoxin B1 level of 7 parts per billion (7 nanograms per gram) in the feed of a cow will result in an aflatoxin M1 level of 0.1 parts per billion (0.1 nanogram per milliliter) in the milk from that cow. Based on these studies, it is estimated that dairy cattle fed corn or other feed containing 20 parts per billion aflatoxins would produce milk having aflatoxin M1 levels of 0.2 to 0.3 parts per billion. This level is below the action level of 0.5 parts per billion that FDA has established for guiding its regulation of aflatoxin M1 in milk. These data suggest that the present action level of 20 parts per billion total aflatoxins in the complete feed of lactating dairy cattle is appropriate for reducing the risk of incurring aflatoxin M1 in milk in concentrations greater than the action level of 0.5 parts per billion.

Surveys of milk in a number of countries have shown that aflatoxin M1 can be found in marketed milk in relation to the potential for aflatoxin contamination of the dairy rations. The incidence and level depend on the point in the collection and distribution system at which the sampling is done. As a result of the drought of 1988 in the United States, many states and the state supported national conference on Interstate Milk Shipments, which has the prime responsibility for monitoring milk, expanded their monitoring program. Of those states that reported their results to FDA, two samples among 167 in Florida, one among 71 in Georgia, two among 187 in Illinois, none among 311 in North Carolina, none among 149 in Virginia and only one in 138 samples in Wisconsin were shown to contain aflatoxin M1 above 0.5 parts per billion. Some milk samples with levels above 0.5 parts per billion were found in Texas, Minnesota, Illinois and Iowa; this resulted in the dumping of the milk. Of 336 samples of milk examined by FDA, only two contained aflatoxin M1 above 0.5 parts per billion. When aflatoxin M1 is found in milk at a level greater than 0.5 parts per billion, it is reasonable to suspect that the dairy cattle used to produce this milk consumed corn or other feed contaminated with aflatoxins at a level greater than 20 parts per billion.

QUESTION: How is the FDA dealing with the concerns of consumers and farmers?

ANSWER: FDA's responsibilities with respect to aflatoxin range from identifying and defining the scope of the problem and determining levels above which aflatoxin may be injurious to health, through monitoring the raw materials and finished products susceptible to aflatoxin, to removing from the market products that may be injurious to health.

Since the early 1960's when aflatoxin was first identified, FDA and other scientists have been working steadily to characterize aflatoxin, the conditions most favorable for the growth of the mold that produces aflatoxin, how aflatoxin can be monitored, and how it may best be controlled. FDA's research includes estimation of how much aflatoxin actually gets into the food products we consume and the risk associated with the consumption of this amount of aflatoxin.

FDA, other regulatory bodies, including states, and the industry monitor and control the amount of aflatoxin that is in our food based on action levels that FDA establishes as guidance for enforcement. FDA has had for many years a system in place to monitor aflatoxin. When we identify, as we did this year, that there is a potential for a problem, we step up these efforts. There are also systems in place whereby other regulatory bodies who encounter aflatoxin in the products they monitor notify FDA. When a problem is identified, FDA takes whatever action is necessary, including but not limited to seizure of the goods, to ensure safe and plentiful food supply.

Recent surveys indicate that aflatoxin is not found in sweet corn, which is the type of corn generally eaten as "on the cob" or whole kernel. This is because sweet corn is high in moisture content and is harvested before aflatoxin can form. Although no one can guarantee with absolute certainty that processed corn products do not contain any measurable amounts of aflatoxin, studies indicate that an overwhelming majority of such products contain no measurable aflatoxin. Those few processed corn products that do contain any measurable amounts of aflatoxin almost always contain well below 20 ppb, FDA's action level for aflatoxin in human food. Studies have further shown that the two general methods used to process raw corn into food and food ingredients--wet and dry milling--remove a major portion of aflatoxin that might have been present initially. For example, scientific data indicate that corn starch--a widely used food ingredient derived from wet milling--contains only 1% of any aflatoxin present in the raw corn. In addition, treatment with heat during processing or cooking further reduces any remaining aflatoxin.

Occasional consumption of the very few processed corn products that contain a measurable amount of aflatoxin would be of little lifetime health consequence, because only repeated exposure to relatively high levels of aflatoxin over a number of years could present a significant safety risk. We are confident that there is no such risk associated with the current commercial food supply.

### Prostacyclin

QUESTION: I have been contacted by the family of Anne Washburn of Milwaukee, who is suffering from primary pulmonary hypertension. Her best chance for a future would be a heart-lung transplant, but her life is being extended at present with the drug "prostacyclin". I understand that drug is being reviewed by the FDA for use with patients with primary pulmonary hypertension. Can you tell me where in the process this drug is?

ANSWER: Prostacyclin (Flolan/Epoprostenol) is an Investigative New Drug (IND) by Burroughs Wellcome Co. It has orphan drug designation for primary pulmonary hypertension and it is currently being studied in clinical trials. Whether it is approved for marketing will depend, of course, on the results of these trials.

---

## QUESTIONS SUBMITTED BY SENATOR SPECTER

### Chilean Fruit Incident

QUESTION: The Chilean grape incident, which resulted from the detection of two cyanide injected grapes at the Port of Philadelphia from result of inspections conducted on March 12, created much concern on an international scale and resulted in a grave economic setback for the Port of Philadelphia in lost revenues generated through Chilean grape and other fruit sales.

Speculation regarding the actual cause of the incident was extensive during several days following the detection of the cyanide laced grapes. Accordingly, will you please provide the most recent sequence of events leading to the incident and submit for the record a status report on the current inspection practices in Chile. Also of interest are your formal comments as to whether the Commission feels that permanent Food and Drug inspectors should be assigned to Chile in light of the magnitude of the citrus fruit trade volume and whether in your opinion additional inspectors are now necessary to prohibit another incident of this nature from occurring in the future.

ANSWER: On March 3, 1989 FDA was notified by U.S. Customs that the U.S. Embassy in Santiago had received an anonymous call in which a male voice claimed that export fruits would be poisoned with cyanide. The State Department analysis of the call suggested this to be a hoax. The Food and Drug Administration accepted the State Department's analysis but instituted a surveillance program at all ports of entry. Limited inspections and laboratory analyses did not indicate any cause for concern at that time. The FDA, on March 6, 1989 issued a press release suggesting that the initial call was probably a hoax and that Chilean fruit coming to the U.S. was being monitored.

On March 9, 1989, the FDA received a telephone call from the State Department informing us that the U.S. Embassy had received a second threatening call apparently from the same individual. The caller indicated that he read the business section of the local newspaper where it was reported that the threat was a hoax. He wanted to emphasize that the threat was not a hoax and that there was a real problem. Accordingly, FDA instituted the following measures:

1. All fruit was inspected by FDA at the 1-2 percent level at all ports. That is, 1-2 percent of all fruit was examined visually for softness, abnormalities, injection sites and spoilage. Any suspicious fruit was subject to laboratory examination.

2. The Center for Food Safety and Applied Nutrition instituted on an emergency basis, tests to determine whether fruit immersed in cyanide retains cyanide for appreciable periods of time in view of the acid nature of the fruit.

3. We requested that the Chilean government tighten precautions around the entire distribution chain of fruit prior to export. We also requested that sampling be done in the same fashion as FDA to add another layer of safety.

4. We requested Mr. Holzworth, Attorney for the American Produce Association, representing importers of Chilean fruit, to develop an inspection strategy at the ports of entry to similarly increase safety.

5. We obtained shipping inventory of fruits from Chile and monitored all arrivals closely.

On Sunday, March 12, 1989 an investigator in Philadelphia, while conducting an inspection of a recently docked ship, found some suspicious grapes in a crate. Laboratory analysis indicated the presence of cyanide. Even though the amount was low (.003 mg) and considered non-lethal, the presence was alarming. The presence of cyanide could not be explained by any other mechanism but tampering.

The cyanide findings was alarming in that FDA could not thereafter guarantee the safety of fruits coming into the United States. The possibility existed that other fruits from Chile could be poisoned. As a result, FDA recommended to the Secretary of the Health and Human Service that we:

1. Refuse entry of all Chilean fruits into the United States.

2. Institute a market withdrawal of all Chilean fruits from the market place.

3. Issue a press release informing consumers to refrain from eating Chilean fruits.

Concurrence was obtained by the Secretary from other members of the Cabinet as well as the White House, and these actions were taken on March 13.

After that date, we met several times with the Chilean Ambassador, the Foreign Minister of Chile, and the Agriculture Minister of Chile, as well as with the importers/exporters groups represented by Mr. Holzworth, to discuss how to reintroduce Chilean fruits to U.S. market. The FDA developed a plan, which was concurred in by the Secretary, members of the Cabinet, and the White House.

The important features of the reintroduction plan were as follows:

Chilean fruit that was at U.S. docks or in transit to the United States was given increased visual inspection with laboratory testing of all suspicious looking fruit before the shipment was released. Inspection was originally at the 5% level for fruit shipped on or before that date.

Any Chilean fruit in the hands of importers, wholesalers and retailers within the United States market was destroyed to eliminate fruit that could not be practically inspected. Fruit on "intact pallets" was subject to the same increased visual inspection and testing as fruit in import status.

Fruit still in Chile was subject to increased security arrangements, as well as inspections and lab tests, before it left for the United States. These measures were taken by the Chilean government and exporter to minimize opportunities for tampering during transit from the Chilean fields to the United States.

With these and other protections in place, we believe we can say with confidence to American consumers that the fruits they find for sale have the maximum feasible assurance of safety. As always, we believe consumers should inspect all products, regardless of country of origin. In this particular case, consumers should look especially for injection marks, any unusual appearance or discoloration or a chemical or "burned almond" smell.

The first fruits to be reintroduced under the plan were grapes, strawberries, raspberries, and blueberries, on March 17. The following Monday, March 20, we announced the addition of pears and nectarines to the list, and on Friday, March 24, we completed the process by adding apples, peaches, and plums.

FDA investigators began supervising the inspection of Chilean fruits on Saturday, March 18. The actual inspection is being performed by persons hired by AMPRO. FDA was ready to release 200,000 creates of grapes on March 21, but there was a delay by AMPRO in obtaining the stamps to place the statement "Inspected and Cleared" on the cases. We believe the presence of this statement is important for consumer and retailer acceptance of the Chilean fruit, in addition to being a required element of the plan.

Through April 13, FDA had supervised the inspection and release of 7,774,057 cases of grapes; 62,266 cases of raspberries; 556,176 cases of pears; 896 cases of blackberries; 632,222 cases of nectarine; 116,559 cases of peaches; 483,300 cases of plums; and 399,138 cases of apples. That fruit is now on the way to consumers.

We have been moving toward normalization of the importation of Chilean fruit, first by reducing the inspection level in U.S. to 4% for fruit shipped between February 20 and March 17, and 1% for fruit shipped after March 17, when Chile had instituted increased security measures. Additionally, fruit shipped after April 1 is being inspected at the 1% level in Chile, with FDA oversight. FDA is phasing out the audit program in the U.S., toward resumption of normal surveillance.

## The Generic Animal Drug and Patent Term Restoration Act

QUESTION: The Generic Animal Drug and Patent Term Restoration Act that was enacted last year is similar to the generic animal drug law that was enacted in 1984, is that correct?

ANSWER: The Generic Animal Drug and Patent Term Restoration Act is similar to the generic human drug law that was enacted in 1984.

QUESTION: What has been the experience with the generic human drug law, that is, what drug price savings have consumers received from that law?

ANSWER: The agency does not have comprehensive information on consumer savings from the generic human drug law. However, there are many instances, especially for drugs with large markets such as valium, where consumers can save 50% or more compared to prices before there was a generic version of a drug. It should be noted that higher prices in some instances may result from the patent term restoration provisions, which are designed to grant patent extensions for new innovative products. The overall economic impact is difficult to measure, but there is no question that for many drugs where there is generic competition, consumer savings have been substantial.

QUESTION: Would you please indicate the level of drug price savings we might expect to result from the implementation of the generic animal drug law?

ANSWER: When fully implemented, the generic animal drug law is expected to result in significant drug price savings, but we do not have any precise estimates.

QUESTION: Who will be the recipients of these savings from the generic animal drug law?

ANSWER: There will be many beneficiaries of animal drug price reductions. Two of these are the practicing veterinarian and the live stock producer. The decreased drug costs will, in turn, result in a reduction in livestock production costs, which will eventually pass on the consumer. Owners of companion animals will also benefit from reduction in cost veterinary care, and increased availability of generic over-the-counter drugs.

## Salmonella in Eggs

QUESTION: Due to the increasing incidences of salmonellosis in humans as a result of the bacteria of Salmonella Enteritidis, the problems related to Salmonella have become a serious public health issue. This increased awareness surrounding the health issue threatens the stability of the egg-producing industry. In response to this growing health issue, the Department of Agriculture has developed a voluntary program designed to control the spread. The FY89 Agriculture Appropriations Conference Report contained language requiring the USDA and FDA to cooperate in investigating, identifying and eradicating the problems associated with SE. While the testing programs under the USDA plan are voluntary, do you consider the plan successful or is a mandatory testing alternative a consideration?

ANSWER: FDA and USDA have been cooperating with the voluntary program. This testing program encompasses breeders, hatcheries, and commercial egg-laying flocks and it has had considerable success. We are still studying whether mandatory testing should be required.

---

## QUESTIONS SUBMITTED BY SENATOR GRASSLEY

### Generic Animal Drug and Patent Term Restoration Act (PL 100-670)

QUESTION: Commissioner Young, you mentioned in your statement that you have begun implementation of the General Animal Drug and Patent Restoration Act. Can you tell us a bit more about the benefits that you expect to be realized from implementation of that law?

ANSWER: The benefits that we expect from the Generic Animal Drug legislation are lower prices on animal drugs and patent term extensions for veterinary drug sponsors, which should promote innovation. By allowing abbreviated applications for animal drugs both industry and the FDA should benefit from less paperwork.

QUESTION: For instance, is there an estimate of the aggregate dollar value of the savings which might be realized by the wider use of generics attributable to this law? How much do you estimate it will cost FDA to implement this law so that the approval process will at least take no longer than is the case at present for non-animal drugs? How would you use this money were you to get it? Is there money in your budget submission to implement this program?

ANSWER: The agency does not have an estimate of the dollar savings that will result from the availability of generic animal drug products. Within the 1990 budget requested, the agency plans to redirect between five and ten staffyears to carry out the highest priority tasks to implement this new law. This redirection within existing resources will probably slow down some of our other New Animal Drug Application review activities.

QUESTION: Is it the case then, that you plan to implement the program with existing personnel?

ANSWER: Depending on the number of applications received, the review of these applications may have to be done by the existing staff that currently review New Animal Drug Applications.

QUESTION: How much will this slow down the approval process compared to how long it would take if you had additional resources?

ANSWER: With the staffyears the agency plans to redirect to this activity, we believe that increases in review time will be minimal.

## User Fees

QUESTION: I understand that the budget submitted by the Administration for FDA assumes some revenues generated by user fees. For what exactly would those user fees be charged? How much money does the budget submission assume FDA will earn from these user fees?

ANSWER: The budget projects that $100 million will be collected annually, from fees for product marketing applications submitted to FDA for approval. These include New Drug Applications, New Animal Drug Applications, Food Additive Petitions, and Medical Device Pre-Market Approval Applications.

QUESTION: How much will a typical user fee amount to for approving a new product? And can you tell us what that would be as a percentage of the total cost of getting the product to market?

ANSWER: FDA does not have access to manufacturer's financial data on the cost of developing and marketing products. However, according the the Pharmaceutical Manufacturers Association, the cost of developing a major new drug exceeds $125 million.

FDA estimates that the fee for a New Drug Application would be in the range of $300,000. Using these figures as an example, the fee for FDA review would be 1/4 of 1% of the total development cost.

In most such cases, the fee would be an even smaller percentage of the firm's anticipated income over the first few years of marketing.

The legislative proposal itself does not include specific fees. Our estimate of $100 million that could be collected in Fiscal 1990 is based on our estimate of the costs of the programs for which fees would be charges. The exact fees, of course, would have to bet after Congress passed the legislation and we reviewed the costs involved and the numbers of applications we expect to receive. We currently project that the fee for an NDA would be about $100,000 and the fee for generic applications for both human and animal drugs would be in the range of $20,000. Biologics license applications reviews, assuming the fee were equal for all of them would be in the range of $45,000. The fee for food and color additive petitions would be in the vicinity of $125,000. finally, the fee for a medical device Premarket Approval application would be around $90,000 and the fee for device premarket notification--510(k)s--would be around $1,000.

QUESTION: Is it your feeling that smaller firms producing innovative products could find such user fees burdensome?

ANSWER: That is possible in some cases. The proposed legislation does have a provision allowing the Secretary to make some exemptions. However, the fees projected, especially for new drugs and devices, would represent a very small fraction of the total cost of developing new products. Also, they would represent a tiny fraction of the projected revenue from such new products. We do not believe these fees would have any significant impact on research and development.

QUESTION: Has the Administration submitted the legislative proposals for these user fees? If not, do you know when we will see them?

ANSWER: The legislative proposal was transmitted to Congress in early April.

## Off-Label Use of Prescription Drugs

QUESTION: You mentioned in your testimony that as much as fifty percent of prescription drug use is for indications not specifically approved by FDA. I understand from your testimony that you feel that this is appropriate. However, apart from the reimbursement and liability problems you mention in your statement, lay people like myself might wonder whether there occur any adverse reaction problems as a consequence of this practice. Does FDA have any indication that there could be problems occurring as a consequence of this practice, such as adverse reactions?

ANSWER: We know that off-label drug use is practiced. We have no evidence of significant incidences of adverse reactions related to this use. As approved drugs are found effective for new indications, however, we do actively encourage that data be submitted to FDA so that the new indications may be included on approved drug labeling, as well as cautions about any adverse reactions or contraindications associated with the use of the drug to treat these new indications.

## QUESTIONS SUBMITTED BY SENATOR LAUTENBERG

### User Fees

QUESTION: On page 2-37 of the President's FY 1990 Budget, the statement is made that "user fees will benefit consumers and lessen the economic cost of FDA regulations by shortening the review time for drugs, medical devices, and consumer safety activities." FDA's "FY Justification of Appropriation Estimates" cites the inclusion of $100 million in user fee receipts as an offset to appropriations in the total FDA budget request of $513 million (excluding moneys to be made available for AIDS-related work). These receipts would be derived under the following programs: Food Safety -- $10 million; Human Drugs --$59 million; Biologics -- $7 million; Animal Drugs and Feeds --$10 million; and Medical Devices and Radiological Products -- $14 million.

However, figures in the FDA document indicate that $61 million of these receipts would make up the difference between current-year appropriations and reduced appropriations requested for next year, and about $20 million would be applied to built-in salary and operating cost increases. This would leave only about $19 million for program increases (p.7), of which only $1.6 million would be devoted to improvements in new drug review, $1.5 million for new device review, $600 thousand for imported food surveillance, and $180 thousand for sulfa residue investigations, with the balance ($14.5 million) being applied to "biotechnology initiatives."

How can the statement in the President's Budget, on the purpose of user fees, be squared with the fact that, for example, only 3.1 percent of user fee receipts in FY 1990 would be applied to improvements in new drug and medical device review?

ANSWER: The benefits quoted above from the President's Budget were not stated as the whole purpose of user charges. The primary purpose of user charges is to have those who benefit economically from a government service pay for that service, and not the taxpayer. Consumers will benefit from improved product review, as well as from the other program increases proposed in the request. However, the user fee proposal is based on the concept that the fees pay the cost of the activity to which the fee applies--for example, those who submit New Drug Applications would pay the full cost of reviewing those applications. While not all of the activities included in the user fee proposal are related to an increase request in the 1990 budget, the major categories of new drug and device applications would be affected by the increases requested, and there have been substantial increases in these two programs in recent years. The agency believes that consumers benefit in a variety of ways from improved product review by FDA. The user fee proposal would allow FDA to make further enhancements without increasing its appropriations and contributing further to the budget deficit, but the primary purpose, once again, is to assign the cost of these operations to those who financially benefit substantially from them rather than having it paid for by the general taxpaying public.

QUESTION: Please explain the contradiction between the FY 1990 Budget Appendix citation of $100 million in offsetting receipts from user fees (p. K-1), and the notation in the "Major Policy Initiatives" document on the FY 1990 Budget that $87 million will come from user fees (p. 159).

ANSWER: The figure in the Major Policy Initiatives document was based on the net impact on outlays of user fees. While the budget is based on the collection of $100 million, the projected rate at which FDA would spend these funds resulted in the estimate of $87 million impact on outlays.

QUESTION: How did FDA arrive at the estimate that it would be possible to raise $100 million through user fees in 1990? Was this the result of detailed study, as required by federal user charge policy? If so, please provide a copy of that study.

ANSWER: This estimate was not prepared as a result of a detailed study under general user charge policy. It is an estimate of the total costs of the activities for which user fees are proposed to be charged. Since a separate legislative proposal is being transmitted, which would authorize these fees, the precise amount of fees collected would depend on the form of the law as enacted by Congress and as implemented by regulations.

QUESTION: What would be the levels of the several user fees proposed for various product review activities? Has a determination been made that such fee levels are fair and equitable, as applied to substantially differing product review activities, and as adjusted for the multiple types of marketing applications submitted to FDA under each program?

ANSWER: The proposal is to charge different fees for the different types of applications received by FDA. Clearly, the work involved in reviewing New Animal Drug Applications is quite different in many ways from New Drug Applications, for example, and from medical device applications. The legislation proposed would authorize charging the full cost of each type of application, with the funds going to support the particular review program involved. While projected fees are based on the assumption of a flat fee for each type of application, this does not rule out the possibility of different fees for different types of applications within each basic application category.

The legislative proposal itself does not include specific fees. Our estimate of $100 million that could be collected in Fiscal 1990 is based on our estimate of the costs of the programs for which fees would be charged. The exact fees, of course, would have to be set after Congress passed the legislation and we reviewed the costs involved and the numbers of applications we expect to receive. We currently project that the fee for an NDA would be about $300,000. The fee for a New Animal Drug Application would be about $100,000 and the fee for generic applications for both human and animal drugs would be in the range of $20,000. Biologics license application reviews, assuming the fee were equal for all of them would be in the range of $45,000. The fee for food and color additive petitions would be in the vicinity of $125,000. Finally, the fee for a medical device Premarket Approval application would be around $90,000 and the fee for device premarket notifications--510(k)s--would be around $1,000.

QUESTION: Would not user charges, at the significant level that appears to be necessary to achieve the annual income goal of $100 million, have a serious adverse impact on small manufacturers in pursuing further research and development?

ANSWER: The total of $100 million is not an income goal, but an estimate of the total costs of the activities for which are proposed to be charged. The fees projected, especially for new drugs and devices, would represent a very small fraction of the total cost of developing new products. Also, they would represent a tiny fraction of the projected revenue from such new products. We do not have any good data on the impact on small manufacturers. The Administration's legislative proposal does have a provision allowing the Secretary to make some exemptions. There could possibly be made for some small business.

QUESTION: The Appendix to the President's FY 1990 Budget (p. 1-K1) states a requirement that FDA user fees must be specifically authorized by law. Receipts under this statutory authorization would be credited to FDA. Is it reasonable to anticipate favorable Congressional action on this authorizing legislation, given the fact that Congress took no action on similar legislative proposals submitted by the Department of Health and Human Services in 1986 and 1987, and that since 1984, Agriculture Appropriations bills enacted by Congress consistently have included a provision prohibiting the use of any funds by FDA to implement a user fee program under 31 U.S.C. 9701?

ANSWER: The Administration is transmitting this proposal out of the continued belief that those who benefit economically from government services should pay the cost of those services. In view of the pressing need to reduce Federal deficits, we believe it is increasingly likely that Congress will consider such means to reduce the cost of government to the taxpayer.

QUESTION: Should Congress fail to enact legislation authorizing "product review charges" by FDA, what actions will be taken to avoid operating in violation of the Anti-Deficiency Act, which prohibits federal agency spending at a rate that would require supplemental appropriations?

ANSWER: If Congress does not enact legislation authorizing these fees, and the Fiscal 1990 Appropriation for FDA were the amount requested in the President's Budget, the agency would immediately have to begin actions to reduce the scope of FDA operations. All non-essential purchases would be frozen, as well as all hiring, and other measures would have to be initiated such as furlough and reductions in force.

QUESTION: Can FDA reasonably expect to implement user fee authorization legislation, even assuming early enactment in the current session of Congress, in time to meet the FY 1990 user fee income goal, given the requirement of promulgating proposed and final regulations, with an adequate intervening period for the submission and review of public comments, under the Administrative Procedure Act?

ANSWER: Yes, it would still be possible to establish final regulations in time to be implemented early in Fiscal 1990. There is likely to be a minimum of a few months delay in implementing user fees after the legislation is enacted if the traditional notice and rulemaking procedures are followed which usually allow 30-60 days for public comments to proposed rules. Again, though, the timing of such a delay would depend on when Congress acts on the legislation.

QUESTION: Will there not be substantial uncertainty over the actual level of user fee receipts, forcing the agency to put action plans for program improvements "on hold", and creating instability in staff hiring and retention, as opposed to being able to execute rational planning based on regular appropriations?

ANSWER: During the initial implementation of user fees, there will be some uncertainty about the revenue and application submissions. In recent years, though the number of applications received has remained steady or continued to increase in most cases. The agency would have to monitor the numbers of applications received, and the resulting fees received, very carefully. If the number of applications overall declined slightly in a particular year, FDA could defer purchases and limit hiring as needed--and these actions would reflect the fact that the workload had declined. At the same time, the proposal to allow these funds to remain available until expended would give FDA the flexibility to carry over funds not needed immediately at a given time.

QUESTION: The Appendix to the President's FY 1990 Budget stipulates that receipts from user fees are "to remain available until expended." Under this procedure, would not Congress be abdicating its oversight responsibilities with respect to the use of FDA funds, and as currently exercised through the annual appropriations process? If user fee income is applied to salaries and expenses , why should not these funds be made available on a one-year basis, in conformance with appropriations for salaries and expenses, rather than for an indefinite period?

ANSWER: As noted in the response to the previous question, extended availability would give FDA some flexibility to carry over funds when not needed immediately. Moreover, since the user fees would be received with product applications throughout the year, and FDA does not control the timing of applications submitted, FDA would not be able to spend the fees received right at the end of the fiscal year if the fee had to be spent that fiscal year. There is already a precedent for operating this way in FDA's revolving fund for color and insulin certification. Also, since the fees would be designed to recover the full costs of providing this government service to the benefitting private industry, other costs besides salary expenses would be recovered.

Only some FDA activities would be funded by these fees, and we assume that the Appropriations Committees would take the user fee revenue into account as they consider FDA's annual appropriations. Therefore, we do not believe these fees would reduce Congress' ability to oversee FDA activities and use of funds.

QUESTION: Please comment on the statement in FDA's 1983 User Charge Study (p. 57) that the potential disadvantages of user fees include "initiating a process that could entail or lead to appearances of conflict of interest and to an unstable operating environment if FDA's appropriated funds were reduced and the agency were made directly dependent upon receipts from the regulated industry." Under current budget pressures, would not distortions arise in FDA policies and in the distribution of resources within the agency, favoring activities which generate user fee income?

ANSWER: The fees proposed are all for product marketing applications submitted to FDA. FDA could not generate income on its own since these applications are submitted voluntarily by the sponsor. Since marketing applications are clearly submitted to FDA because of the possibility of future economic gains, and we do not believe the fees to be charged would have any impact on that incentive to submit applications, we do not believe there would be any conflict of interest. Moreover, our proposal is that the fee be submitted at the time of the application, so that there is not a question during the review process as to what the fee may be or whether it will be paid.

## AIDS/Product Review Time

QUESTION: FDA efforts to expedite the review of products for the prevention, diagnosis, and treatment of AIDS and related diseases merit strong support, and appropriations by Congress were intended to provide for the effective doubling of staff working on AIDS during the current fiscal year. In addition, $5.5 million in supplemental appropriations were provided for blood bank inspections. The FDA FY 1990 budget request notes an $11 million increase over total current-year appropriations, to support an increase of 183 full-time-equivalent staff for AIDS-related work, from funds to be made available under a new consolidated account of the Department of Health and Human Services, called the "National HIV program."

The Senate Appropriations Committee last year directed that the FDA budget indicate, as a separate category, staff and facilities requirements for AIDS for the fiscal year and over the long term, so that appropriate resource planning could be anticipated. One of our concerns was that staff should not continue to be drawn from work on reviewing products for other life-threatening illnesses. The FDA FY 1990 "Justification of Appropriation Estimates" reports that "by the end of the calendar year 1988, FDA had received over 240 Investigational New Drug (IND) applications representing over 145 different products for the prevention, diagnosis, or treatment of AIDS and related diseases" (p.4). In a separate report by the Department of Health and Human Services on a justification of appropriation estimates for the National HIV Program, FDA reports that "it is projected that with advances in research and biotechnology, the number of INDs will total over 300 by the end of 1989 and over 500 by 1990" (p.87).

I am concerned that while staff increases are proposed under the Human Drugs, Biologics, and Devices and Radiological Products programs (FDA "Justification", p.23-24), these increases are identified elsewhere as entirely dedicated to AIDS work (p.7). In light of the projected AIDS work increases you have identified, concomitant with substantially increased activities anticipated in on-going programs, do you believe that the increased appropriations proposed for AIDS work will be adequate, or will it be necessary to divert staff from other regulatory review activities to meet this need?

ANSWER: Over each of the last four years, FDA has had to divert other resources to AIDS. The current request of 506 FTEs, an 82% increase over 1988, is our best estimate of staffyears required for anticipated future AIDS activities. However, the AIDS situation is very dynamic and workload is difficult to predict. It is possible that unanticipated events might result in an increased 1990 AIDS workload and such diversion of staff again.

QUESTION: Comparing the FDA "Justification of Appropriation Estimates" for FY 1989 and FY 1990 on "Program Activity Data" (p.32 in both reports), I note that the mean time from receipt to approval for New Drug Applications increased from 26.7 months in FY 1987 to 29.6 months in FY 1988, and the range of estimated approval time in FY 1989 has been correspondingly raised, from 21-27 months to 23-30 months. Average review time from ANDA receipt to approval has increased from 11.5 months in FY 1987 to 16 months in FY 1988, and the FY 1989 time estimate has been similarly increased. These review period increases appear, in part, to be affected by an increased level of premarket applications--for example, 250 NDAs in FY 1987, 300 NDAs in FY 1988, and an estimated 310 NDAs in FY 1989.

You have made it a priority to improve FDA regulatory review times for drugs while maintaining standards of safety and efficacy, and significant accomplishments in expediting review activities have been recognized. However, it does not appear that requested increased appropriations will help to reduce review times in FY 1990, which the FDA report estimates will be the same as in FY 1989. What further resources and operational improvements are required? Is a priority need an increase in work space at the Center for Drug Evaluation and Research? Under what circumstances can you meet your stated goal, if NDAs are properly prepared, of reducing NDA review time to six months, as mandated under the Federal Food, Drug, and Cosmetic Act?

ANSWER: The 1990 President's budget requests an additional $7.9 million for new drug and biologics review program improvements. We believe that the current request is adequate, balancing overall demands for Federal resources from all sectors.

Achievement of our goal to reduce NDA review time is partly dependent upon the degree to which we are successful in recruiting and retaining a full complement of qualified scientific reviewers to evaluate the increasing influx of applications for innovative drug products. In addition, we are striving to implement automation of the submission of drug applications, allowing for more direct communication linkages with the drug manufacturers. Lastly, we are continuing our efforts to introduce improvements to the overall management of the drug review process. These changes include sending non-approvable letters as early as possible rather than waiting for all of the data to arrive, working earlier with industry throughout the development process, and, through a pilot effort, informing the pharmaceutical companies about the merits of its clinical trials when the trial is finished rather than waiting until after the NDA has been submitted.

## SUBCOMMITTEE RECESS

Senator **Burdick**. This concludes today's hearing.

The subcommittee will meet on Thursday next, April 6, at 10 a.m., in SD-24 and receive budgets for the Animal and Plant Health Inspection Service, the Food Safety and Inspection Service, and the Agricultural Marketing Service.

And with that, the subcommittee stands in recess.

[Whereupon, at 12:14 p.m., Tuesday, April 4, the subcommittee was recessed, to reconvene at 10 a.m., Thursday, April 6.]

# AGRICULTURE, RURAL DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1990

---

THURSDAY, APRIL 6, 1989

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
*Washington, DC.*

The subcommittee met at 10:03 a.m., in room SD-124, Dirksen Senate Office Building, Hon. Quentin N. Burdick (chairman) presiding.

Present: Senators Burdick, Harkin, Fowler, Kerrey, Kasten, and Grassley.

## DEPARTMENT OF AGRICULTURE

### STATEMENT OF DR. KENNETH GILLES, ASSISTANT SECRETARY FOR MARKETING AND INSPECTION SERVICES

### ACCOMPANIED BY LAWRENCE WACHS, BUDGET OFFICER

## ANIMAL AND PLANT HEALTH INSPECTION SERVICE

### STATEMENT OF DR. JAMES GLOSSER, ADMINISTRATOR

## FOOD SAFETY AND INSPECTION SERVICE

### STATEMENT OF DR. LESTER CRAWFORD, ADMINISTRATOR

## AGRICULTURAL MARKETING SERVICE

### STATEMENT OF J. PATRICK BOYLE, ADMINISTRATOR

### INTRODUCTION OF WITNESSES

Senator BURDICK. Good morning, ladies and gentlemen. This morning we continue our hearings reviewing the 1990 budget for Agriculture, Rural Development and Related Agencies. Today we will review the budget for the several marketing and inspection programs at USDA.

With us today is Dr. Kenneth Gilles, Secretary for Marketing and Inspection Services; the pride of the Vetera Valley, Dr. James Glosser, Administrator of the Animal and Plant Health Inspection Service; Dr. Lester Crawford, Administrator of the Food and Safety Inspection Service; Mr. J. Patrick Boyle, Administrator of the Agricultural Marketing Service; and Lawrence Wachs, Budget Officer for USDA. We have statements from everyone which will be made a part of the record.

Dr. Gilles, I will ask you to make your presentation, after which the members will submit their many questions. Would you lead off, sir?

### STATEMENT OF DR. GILLES

Dr. GILLES. Thank you, Mr. Chairman. Indeed, it is a pleasure for us to appear before you and to present the request for the 1990 budget for selected programs within the marketing and inspection services area in USDA.

We will follow the pattern, if we may, that I will make an opening statement and then as the questions arise, the Administrators of the respective agencies, AMS, APHIS, and FSIS will be here to respond.

As you look at the overall picture, the marketing and inspection programs, we believe, play a very important role in the success of American agriculture today and I would add that we certainly appreciate the bipartisan support that we received here in the Senate and on the Hill for many of these areas.

Through all these programs, we work with both the producers and the consumers to create fair and competitive markets that swiftly move commodities from the farm gate to the dinner table.

Each day our market news reporters compile market information from around the country. These reports provide timely and accurate data on market activity which assists the agricultural community in making critical business decisions. In those areas where markets fail or unfair practices are discovered, we provide administrative remedies to change the situation through the Perishable Agricultural Commodities Act.

Our inspectors are literally on the front line in protecting producers and consumers. Thousands of plants and animals are inspected to prevent the introduction and the spread of pests and diseases. Billions of pounds of eggs, meat, and poultry are inspected to ensure that America has the safest food supply in the world. I am proud to say that the result of these efforts is an agricultural system that provides an abundant source of high quality, safe, and wholesome food products.

### FISCAL YEAR 1990 BUDGET

For fiscal year 1990, we have proposed a budget that builds on our accomplishments while holding the line on spending. Under the current law, the total program level for marketing and inspection programs is approximately $1 billion, an increase of $29 million, or only 2 percent over the 1989 level.

However, the appropriations request for these agencies is only about $825 million, since a number of our programs are financed through user fees. The budget also includes proposed legislation to convert several programs to user fee funding with accompanying savings of approximately $80 million.

The budget request is built on the following themes: the introduction of new technology and scientific methods to improve the efficiency and the accuracy of the program delivery system; the expansion of critical programs while scaling down or eliminating those programs where Federal involvement appears no longer necessary; and the expanded use of user fees for programs that provide direct benefits to the private sector.

### ANIMAL AND PLANT HEALTH INSPECTION SERVICE

I would like to highlight some of the areas with respect to the three agencies. First, the APHIS budget. The APHIS budget request under current law is $348 million, an increase of $14 million. However, based on proposed legislation the request would be $280 million, a decrease of $54 million from the 1989 level.

Legislation will be proposed to make agricultural quarantine inspection and a portion of the veterinary diagnostic activities user fee funded programs.

The request also includes an increase of $2.4 million for an accelerated development and implementation of the latest biocontrol technology. The new biological techniques that can be substituted for harmful chemicals are needed to combat the threat posed by a variety of pests. These control agents can play an important role in reducing the Nation's dependence on pesticides.

For fiscal year 1990, we are requesting an increase of $1.4 million to implement the animal welfare regulations. We have reorganized the agency to enable animal care specialists to devote more time to inspecting research facilities, licensed dealers, and exhibitors.

We have also published the third section of the animal welfare regulations, the proposed rule which regulates the animal care and feeding, including the exercise of dogs and the psychological care of primates.

In light of the progress that has been made in reducing the incidence of brucellosis, the budget for this program remains unchanged at $55.8 million. In 1988 the program reduced the disease incidence rate and the number of infected herds by 25 percent. In 1989 we have been able to redirect resources for the testing and retesting to indemnity payments and whole-herd depopulations in the high incidence States.

An increase of $4.2 million is proposed for the Animal Damage Control Program. These funds are needed to enter into additional cooperative agreements with States on a matching basis to replace outdated equipment and to bring the Denver Wildlife Research Center into compliance with good laboratory practices that are mandated by the EPA.

The budget also includes proposed legislation to convert $66 million for the agricultural quarantine inspection program from the appropriated funding to user fees. We feel that international travelers should pay a reasonable fee for those activities that are needed to reduce the risk to agriculture resulting from international travel. The budget also proposes to place a portion of the veterinary diagnostics program under user fees. These will save $2 million.

### AGRICULTURAL MARKETING SERVICE

Turning to the Agricultural Marketing Service budget, based on current law, we propose a program level of $171 million. Approximately 80 percent of these funds are derived from user fees. The appropriated funding request is $32 million under current law.

However, under the proposed law we would anticipate a request of only $28 million for our appropriated funds.

AMS is continually working to improve the services provided to the agricultural community by utilizing state-of-the-art technology. Continued development of the market news service will enhance the operational efficiency of the program and enable a greater number of users access to the data.

Currently, hand-held computers are being utilized by market news service reporters to collect grade, price, and other pertinent data more quickly. Upon recommendation of the National Advisory Committee on Cotton Marketing, AMS is working with other agencies in the Department and the cotton industry to require that high volume instrument classing be mandatory for Commodity Credit Corporation loan eligibility beginning with the 1991 crop.

Significant progress has been made in developing the Processed Commodity Inventory Management System, which is a joint venture with AMS, the Food and Nutrition Service, and the Agricultural Stabilization and Conservation Service. This program assists management in aggregating food orders, analyzing bids and making purchases. The system will ultimately make it possible to procure more food for each dollar expended.

The budget also proposes the elimination of three programs for a savings of $3.6 million. These activities include the Wholesale Market Development Program, the Federal State Market Improvement Program, and the AMS activities authorized under the Federal Seed Act. The 1990 budget also includes legislation to expand user fees to cover the cost of developing and revising commodity standards, and to recover the cost of postage, printing, and handling of tobacco news for a budget savings of $4.2 million.

## FOOD SAFETY AND INSPECTION SERVICE

In the area of food safety, the Food Safety and Inspection Service has been steadily building toward an effective risk-based system of inspection that takes advantage of new technology. To continue this effort, the budget requests $423 million, an increase of $18 million over the 1989 level.

This request includes $5.6 million to strengthen our Residue Testing Program. Over the past year we have had much success in reducing the violative residue levels in meat and poultry products. For example, the sulfamethazine levels in swine were reduced from 4.0 percent to 1.8 percent during 1988.

Residue levels in other meat products have been significantly reduced, but we feel more must be done to expand the use of in-plant rapid tests which will enable a quick detection of violations and the retention of meat products suspected to contain violative residue levels.

As the number of samples in the plant are drawn and increase, the level of laboratory testing will increase proportionately. Our Risk Assessment Program will be accelerated to increase the number of compounds tested from 10 to 50 per year.

For fiscal year 1990 we are requesting an increase of $1.6 million for the training of our employees. As new technology and scientifically based inspection procedures are introduced, our employees must be trained to accommodate these changes. The funds will be used to assist processing inspectors to become food technologists. We are requesting additional funds to take full advantage of our new training center at the Texas A&M University.

Streamlining inspection procedures in slaughterhouses have allowed the Agency to absorb part of the additional workload resulting from an increased plant production. However, production has increased at such a rate that we have had to rely more heavily on intermittent employees and occasional coverage by inspectors.

This situation is not only stressful to our employees but interferes with our ability to effectively implement new processing inspection procedures. To alleviate this type of shortage of slaughter inspectors we have requested an additional $2.3 million to provide for full coverage of all slaughter assignments.

The 1985 National Academy of Sciences report on meat and poultry inspection described the characteristics for an optimal inspection system. They recommended, for example, an inspection system with different levels of intensity reflecting the degree of public health risk at various stages in the process.

We recently issued a proposal that would implement inspection procedures based on these recommendations. The public comment period closed in February and we are currently reviewing the large number of comments. We expect the implementation of the regulations to result in some program savings, but in view of the complexity of the issue we are conducting further reviews.

Mr. Chairman and members of the committee, we certainly appreciate this opportunity to highlight the budget for the Marketing and Inspection Service programs. I fully support the budget request and believe it is adequate to allow us to successfully accomplish the program goals of the Department of Agriculture.

We stand at this moment and would request that the individual administrators would respond to questions relating to their specific areas of activity. Thank you very much for this opportunity.

### PREPARED STATEMENTS

Senator **Burdick**. Thank you. Your complete statements will be made part of the record.

[The statements follow:]

### Statement of Dr. Kenneth Gilles

Mr. Chairman and members of the Committee, I am pleased to appear before you to discuss the Marketing and Inspection Programs of the U.S. Department of Agriculture and the fiscal 1990 budget proposals for these programs. With me today are Dr. James Glosser, Administrator of the Animal and Plant Health Inspection Service (APHIS), Mr. J. Patrick Boyle, Administrator of the Agricultural Marketing Service (AMS) and Dr. Lester Crawford, Administrator of the Food Safety and Inspection Service (FSIS).

These administrators have prepared statements for the record and will answer questions regarding the budget proposals for their specific programs.

### ROLE OF PROGRAMS

The Marketing and Inspection Programs play an important role in the success of American agriculture today. Through these programs we work with producers and consumers to create fair and competitive markets that swiftly move commodities from the farm gate to the dinner table. Each day our market news reporters compile market information from around the country into news reports. These reports provide timely and accurate data on market performance which assist the agricultural community in making critical business decisions. In those instances where markets fail and unfair marketing practices are discovered, we provide administrative remedies to change the situation.

Our inspectors are literally on the front lines in protecting producers and consumers. Thousands of plants and animals are inspected to prevent the introduction and spread of pests and diseases. Billions of pounds of eggs, meat, and poultry are inspected to ensure that America has the safest food supply in the world. I am proud to say that the result of our efforts is an agricultural system that provides an abundant source of high quality, safe, and wholesome products.

## FISCAL YEAR 1990 BUDGET

For fiscal year 1990, we have proposed a budget that builds on our accomplishments while holding the line on spending. Under current law, the total program level for the Marketing and Inspection Programs is approximately $1 billion, an increase of $29 million, or only 2 percent, over the 1989 level. However, the appropriation request for these agencies is only about $825 million since a number of these programs are financed through user fees and trust funds. The budget also includes proposed legislation to convert several programs to user fees for a savings of about $80 million.

The budget request is built on the following themes: the introduction of new technology and scientific methods to improve the efficiency and accuracy of program delivery systems, the expansion of critical programs while scaling down or eliminating programs where Federal involvement is no longer necessary, and expanded use of user fees for programs that provide direct benefits to the private sector.

I will use the remainder of my time to highlight the Department's budget request for the Marketing and Inspection area.

## ANIMAL AND PLANT HEALTH INSPECTION SERVICE

The APHIS budget request, under current law, is $348 million, an increase of $14 million. However, based on proposed legislation, the budget request is $280 million, a decrease of $54 million from the fiscal year 1989 level. Legislation will be proposed to make agricultural quarantine inspection and a portion of veterinary diagnostics user fee programs.

The request includes a $2.4 million increase for the accelerated development and implementation of the latest biocontrol technology. New biological techniques that can be substituted for harmful chemicals are needed to combat the threat posed by a variety of pests including the Russian wheat aphid, leafy spurge, alfalfa weevil, knapweed, and the potato beetle. Predators and parasites have been shipped to APHIS biological control laboratories for identification and testing. The Agricultural Research Service European Parasite Laboratory in Paris, France has shipped biological control agents for the Russian wheat aphid from Turkey to be quarantined and maintained for future release. These control agents can play an important role in reducing the nation's dependence on pesticides.

APHIS is constantly vigilant in protecting agriculture from reinfestations of plant pests. The Asiatic strain of citrus canker was recently discovered in Florida. APHIS temporarily reassigned 50 inspectors to conduct intensive surveys of areas surrounding infected groves. The disease was found to have spread within the current four county quarantine area by people and farm equipment. Currently, the entire state of Florida is regulated by citrus canker regulations, but only four counties are regulated for the Asiatic strain.

For 1990, we are requesting an increase of $1.4 million to implement the Animal Welfare regulations. To accomplish this objective, we have reorganized the agency to enable animal care specialists to devote more time to inspecting research facilities, licensed dealers, and exhibitors. In addition, we are planning to conduct an intensive training and public information program. The Department's animal welfare regulations are back on track. The third section was published on March 15, 1989. The proposed rule regulates animal care and feeding including the exercise of dogs and psychological care of primates.

In light of the progress made in reducing the incidence of brucellosis, the budget does not propose an increase in funding for the State-Federal brucellosis eradication program. In 1988, the program reduced the disease incidence rate and the number of infected herds by 25 percent. Most of this reduction was in the high-incidence states. In 1989, we have been able to redirect resources from testing and retesting to indemnity payments and wholeherd depopulations in high-incidence states.

These program tools can rapidly reduce the rate of infection. Since we have been able to reduce the number of animals infected, program costs have leveled off. We will continue to work closely with states, industry organizations, and individuals to eradicate this disease and safeguard those states where the disease has been eliminated.

An increase of $4.2 million is proposed for the Animal Damage Control (ADC) program. These funds are needed to enter into additional cooperative agreements with the states on a matching basis and to replace worn out or outdated equipment. The additional funds would be used to bring the Denver Wildlife Research Center into compliance with Good Laboratory Practices regulations mandated by EPA. These improvements are necessary for the Department to continue to support ADC pesticide registration activities.

The budget also includes proposed legislation to convert the $66 million for the agricultural quarantine inspection program from appropriated funding to user fees. International travelers should pay a reasonable fee for those activities needed to reduce the risk to agriculture resulting from their travel. Furthermore, this proposal is consistent with the approach taken by the U.S. Customs Service and the Immigration and Naturalization Service. These agencies began collecting user fees for their airport inspection work in 1986. The budget also proposes to place a portion of the veterinary diagnostics program under user fees which will save $2 million.

### AGRICULTURAL MARKETING SERVICE

The AMS budget, based on current law, proposes a program level of $171 million. Approximately 80 percent of these funds are derived from user fees and trust funds. The appropriated funding request is $32 million under current law. However, under proposed law, the request is $28 million.

AMS is continually working to improve the services provided to the agricultural community by utilizing state-of-the-art technology. Continued development of the market news system will enhance the operational efficiency of the program and enable a greater number of users to access the data. Currently, hand held computers are being utilized by market news reporters to collect price, grade and other pertinent data more quickly. Upon the recommendation of the Advisory Committee on Cotton Marketing, AMS is working with other agencies in the Department and the cotton industry to require high volume instrument (HVI) classing for Commodity Credit Corporation loan eligibility for the 1991 crop. Significant progress was made in the development of the Processed Commodity Inventory Management System (PCIMS)—a joint venture with the Food and Nutrition Service and the Agricultural Stabilization and Conservation Service. PCIMS is a sophisticated computer-based system which assists management in aggregating the food orders, analyzing the bids, and making purchases. This system will ultimately improve our ability to buy more food for the dollar.

Under current law, the budget also proposes the elimination of three programs for a savings of $3.6 million. These activities include the Wholesale Market Development program, the Federal State Market Improvement program, and AMS activities authorized by the Federal Seed Act. The 1990 budget includes proposed legislation to expand user fees to recover the cost of developing and revising commodity standards; and to recover the costs of postage, printing, and handling of tobacco market news reports for a budget savings of $4.2 million.

### FOOD SAFETY AND INSPECTION SERVICE

The Food Safety and Inspection Service has been steadily building towards an effective, risk-based system of inspection that takes advantage of new technology. To continue in this effort, the budget requests $423 million, an increase of $18 million over the 1989 level.

This request includes an increase of $5.6 million to strengthen our residue testing program. Over the past year, we have had much success in reducing the violative residues levels in meat and poultry products. For example, the sulfamethazine residue levels in swine were reduced from 4.0 percent to 1.8 percent during 1988. Residue levels in other meat products have been significantly reduced, but more must be done to reduce the levels even further. The additional funds for 1990 would be used to expand the use of inplant rapid tests. These tests enable quick detection and retention of meat products suspected to contain violative residue levels. As the number of samples drawn by in-plant inspectors increase, the level of laboratory testing will increase proportionately. A quality assurance program for our laboratories is planned to ensure the highest level of laboratory practices. Our risk assessment program would be accelerated to increase the level of compounds tested from 10 to 50 per year.

For 1990 we are requesting an increase of $1.6 million for training our employees. As new technology and scientifically based inspection procedures are introduced, our employees must be trained. Funds would be used to assist processing inspectors to become food technologists. We are requesting additional funds to take full advantage of our new training center at Texas A&M University. The training center will develop the supervisory and managerial skills of promising managers and instructional programs used by inspectors in the field.

Streamlined inspection procedures in slaughter plants have allowed the agency to absorb part of the additional workload resulting from increased plant production. However, production has increased at such a rate that we have had to rely more heavily on intermittent employees, occasional coverage by an inspector on more than one slaughter assignment, or detailing processing inspectors to slaughter stations. This situation is not only stressful to our employees, but interferes with our ability to effectively implement new processing inspection procedures.

To alleviate this shortage of slaughter inspectors, we have requested an additional $2.3 million to provide for full coverage of all slaughter assignments.

The 1985 National Academy of Sciences report on meat and poultry inspection described the characteristics of an optimal inspection system. They recommended . . . "An inspection system with different levels of intensity, reflecting the degree of public health risk at various stages in the process, the reliability of the monitoring system, the compliance history of the slaughterhouse or processing plant, and the special needs of the intended consumer . . ." We recently issued a proposed rule that would implement inspection procedures based on these recommendations. The public comment period closed in February and we are reviewing the large number of comments concerning the implementation of Improved Processing Inspection. We expect the implementation of the regulations to result in some program savings. In view of the complexity of the issue, we are conducting further review.

### CONCLUSION

Thank you for this opportunity to review the budget for these Marketing and Inspection programs. I fully support the budget request and believe it is adequate to assure the successful accomplishment of the Department of Agriculture's program goals.

---

## Statement of Dr. James W. Glosser

Mr. Chairman and members of the Committee, I appreciate the opportunity to present our fiscal year (FY) 1990 budget request and to report to you on our continuing efforts to protect American agriculture. I would like to take some time today to report to you on both our accomplishments and future plans. First, let me introduce some key members of our management team. With me are Mr. Larry B. Slagle, the Associate Administrator; Mr. Richard R. Backus, the Acting Deputy Administrator for Plant Protection and Quarantine; the Deputy Administrators, Dr. Lonnie J. King for Veterinary Services; Mr. C. Joe Packham for Animal Damage Control; and Mr. Michael C. Gregoire, Acting Director of the Budget and Accounting Division.

### AGENCY MISSION

The mission of the Animal and Plant Health Inspection Service (APHIS) is to provide leadership in the health and care of animal and plant resources, to improve agricultural productivity and competitiveness, and to contribute to the public health. We accomplish this in many different ways.

The first is pest and disease exclusion. More than 2,500 exotic insects, plant and animal diseases, weeds, and vertebrate pests have been identified as posing a potentially serious economic threat to the United States, The most effective way to protect American agriculture is to keep these problems from entering the country. We do this through inspections at ports-of-entry and in our international programs.

Our pest and disease exclusion programs are not absolute barriers to the entry of exotic pests and pathogens. Pests of high potential impact on agriculture continue to be introduced and established at an increasing rate, For example, Mediterranean fruit fly infestations were detected in the United States nine times from 1980–1988 as opposed to six times in the previous 60 years. We have systems in place to detect these exotic pests and diseases before they become widespread. We also have a number of ongoing cooperative programs to manage pest and disease problems in the United States.

New and changing pest and disease problems continually test our ability to protect U.S. agriculture. APHIS provides scientific and technical services to develop and maintain the tools for agricultural protection. We also collect, analyze, and disseminate information to help producers improve pest and disease prevention, control, and eradication efforts.

Another way we can carry out our mission is through export facilitation. We do this in a variety of ways, ultimately by assuring the receiving country of the health of our animals, plants, and agricultural products and by working to remove health related obstacles and roadblocks.

Finally, we are responsible for enforcing the Animal Welfare and Horse Protection Acts. These are programs of great and increasing public interest and concern. In addition, our inspectors at international ports-of-entry assist with the enforcement of the Endangered Species Act.

## CHALLENGES FACING APHIS

The United States is recognized as a world leader in agricultural protection; we want to maintain this status. To do this, we must adapt to a changing world. International travel and trade continue to increase dramatically. This trade is essential to the economic health of the farm sector and the Nation as a whole. However, it makes our job of protecting American agriculture that much more difficult. Last year, 33 million people arrived at U.S. ports, an increase of over 1.3 million people in 1 year. We intercepted 1.4 million pieces of unauthorized plant material last year which represents an increase of over 62 percent over the last decade.

Environmental issues have become more complex. Global climate changes are affecting U.S. agriculture. There is growing concern about the relationship of agricultural practices and water quality. Previously approved pest and disease control methods have raised environmental concerns with the public. In these cases, we must tenaciously search for alternatives that are environmentally sound.

Although financial and personnel resources have been limited, APHIS will continue to operate an efficient and effective program. At the beginning of this decade, our budget for salaries and expenses was $249 million. Although our fiscal year 1990 budget proposal is increasing, based on 1980 dollars, it is $206 million. This is a reduction of $43 million or 17 percent in real buying power. During the same period, our responsibilities have significantly increased. Animal Damage Control (ADC), biotechnology, boll weevil eradication, pseudorabies, and Russian wheat aphid are new areas of responsibility; other areas have grown: the animal welfare program is just one example. Because of continuing challenges like these, fulfilling the APHIS mission will depend on a continuing strengthening of our scientific, technical, administrative, and leadership capabilities.

We recognize that these same pressures are being faced throughout the Government. We are committed to carry out our mission and serve American agriculture. In this changing environment, it is now more important than ever for us to communicate with our clients and work together to set goals, plan better, and make more effective use of our resources.

## APHIS OBJECTIVES

To carry out our mission in the future and meet these challenges, we recently made improvements in the Agency's structure and processes to accomplish five objectives.

The first objective is we want to increase both the quality and quantity of service to producers and provide them with the information and technology they need to combat pest and disease problems. Let me discuss some examples of our efforts. Last year, in an effort to aid drought-stricken farmers in the Dakotas, we significantly expanded the blackbird hazing program to protect the sunflower crop from bird damage. We also began an operational and methods development program in the Delta States to protect the growing aquaculture industry in that region. We successfully developed and demonstrated the methods to eradicate the boll weevil which are now being used in the Southeast and Southwest. We also established a regulatory structure to facilitate the transfer of the benefits of genetic research from the laboratory to the marketplace in a safe and timely manner. This year, we significantly increased our efforts to combat the Russian wheat aphid using biological control techniques. To support this objective next year, we propose funding increases in ADC, biological control, and biotechnology programs. We also propose increased funding to bring our laboratory facilities up to standard.

Our second objective is to plan more effectively and improve decisionmaking to make sure that we use our resources in the best way possible. Part of this involves better cooperative relationships and seeking the input of all interested parties at the earliest possible point in time in our decisions. This is essential to the success of our programs. When we have not planned well and communications have failed, APHIS has suffered program setbacks and reversals. We want to avoid these in the future. In the brucellosis program, for example, steady progress was made from the beginning of the program until the early 1970's. At that time, an effective plan to eliminate the last vestiges of brucellosis was not developed and the disease incidence increased. It has since taken nearly 20 years to reach a point where only six States have a relatively high incidence of brucellosis. We are now working closely with our cooperators to eliminate the remaining infection in these high incidence States while safeguarding those States where the disease has been eliminated. A very strong effort is needed this year and next to successfully complete the program. The budget proposes to continue the 1989 effort through 1990.

Our third objective is to improve the Agency's emergency response systems so we can improve our chances of quickly detecting and eliminating pest and disease problems before they become widespread and too costly to eradicate. This means more attention to emergency planning, having good pest and disease detection systems in place, and a stable and qualified work force that is able to respond to and manage emergencies.

To aid in this effort, we are now strengthening our animal disease monitoring efforts by implementing the National Animal Health Monitoring System (NAHMS). The system will track the extent and cost of poultry and livestock diseases and conditions that impair livestock productivity on a State, regional, and national basis. NAHMS has the potential to save producers millions of dollars by enabling them to adjust management practices and improve disease prevention, control, and eradication efforts. We propose increased funding for this effort next year.

Our fourth objective is to have systems of compliance that rely on education and persuasion rather than just punishment. Our approach will be to lead people into compliance by relying first on education, understanding, cooperation, and commitment. Punishment is the last resort, reserved for the intentional violator or the repeat offender. I insist that our group carrying out this function view itself as a service organization.

Fifth, it is our objective to strengthen our animal care programs. Far more of our mail, from the Congress and from the public, is on animal care than any other topic. In the past, we have had several hundred people spend 10 percent or more of their time to carry out the work in animal care. Training several hundred people to do this work part-time is costly and ineffective. Now, animal care specialists will work on animal care full time with other veterinarians making calls where transportation costs to dispersed facilities override personnel efficiencies. We also have animal care in an organization in which the well being of animals is a primary mission. In addition, we propose a budget increase next year in our animal welfare program.

Our animal welfare regulations are back on track. Parts 1 and 2 which are definitions of terms and conditions, animal care committees and recordkeeping will be printed for 60 days comment regarding their relationship to Part 3. Part 3 which provides for animal care and feeding including the exercise of dogs and psychological care of primates will be published for 120 days comment.

In working toward the objectives I have outlined, we can continue to be recognized as a world leader in our field. I would like to speak specifically now about our fiscal year 1990 budget proposal.

## FISCAL YEAR 1990 BUDGET

In developing our fiscal year 1990 budget, we balanced the need to control Federal spending with the need to support strong agricultural protection programs. The proposed fiscal year 1990 budget for APHIS, based on current law, is $347.9 million, an increase of $14.1 million from the fiscal year 1989 appropriation of $333.7 million. However, based on proposed legislation, the budget request is $279.9 million, a decrease of $54 million from the fiscal year 1989 level. The proposed legislation would place the entire agricultural quarantine inspection program and a portion of the veterinary diagnostics program on a user-fee basis.

## INCREASES

The budget request reflects a major emphasis on increasing the quality and quantity of services provided to producers and providing them with the tools to combat pest and disease problems. We propose an increase of $3.2 million in the ADC operational program to enter into additional cooperative programs with the States on a matching basis and to replace worn out or outdated equipment. A $2.4 million increase is included in the biocontrol program to accelerate the development and implementation of biological control techniques, including those to combat the Russian wheat aphid. A $1.2 million increase is needed to expand NAHMS which has been designed to provide local, State, and national information on animal disease problems. A $1 million increase is also proposed to strengthen the ADC methods development activities. Finally, an increase of $500,000 is included in the biotechnology program to keep pace with the growing number of industry requests for permits and ensure that no harmful biotechnologically derived products are released into the environment.

### ANIMAL WELFARE

We propose a $1.4 million increase in this program to maintain an adequate inspection level and implement new regulations mandated by the 1985 amendments to the Act.

### BUILDINGS AND FACILITIES

Good facilities are needed to support a strong scientific program. The budget request includes a $12.6 million increase in the Buildings and Facilities Appropriation. This includes $1.1 million for inflation since 1982 which will allow for timely and adequate maintenance and repair of the APHIS-operated facilities. A $7 million increase is proposed for construction of centralized animal holding and research facilities at the Denver Wildlife Research Center. This is needed to bring the program into compliance with the requirements of the Animal Welfare Act and the Good Laboratory Practices regulations of the Environmental Protection Agency. A $4.5 million increase is necessary to continue the construction of a plant germ plasm quarantine facility in Beltsville, Maryland. Over the years, the demand for and importation of foreign plant germ plasm has dramatically increased while quarantine facilities have deteriorated. There is now a 10-year backlog of plant germ plasm waiting to be processed through quarantine and the eventual completion of the new facility is needed to safely handle the volume of material imported.

### DECREASES

All of us are aware of the need to carefully set priorities for our programs due to budget constraints. In doing so, we recommend scaling back programs where we made significant progress or where States and industry could play a larger role. For example, in the grasshopper program, we recommend a $2.9 million reduction due to our success in reducing grasshopper populations in recent years. The fiscal year 1990 request will allow APHIS to conduct spring and fall survey and data analyses activities with the States. We will also continue to fund the Integrated Pest Management project. Also, we propose a $2.8 million reduction for the imported fire ant program. The Agency will, however, continue to search for an effective control agent to use against the fire ant and work to prevent the interstate spread of the pest. In addition, we propose a $2.1 million reduction in the cattle tick program, which supports the Texas program at the present level and eliminates support for the program in Puerto Rico. The Puerto Rico program is now funded primarily through Food and Nutrition Service block grant funds and contributions from the Commonwealth of Puerto Rico. We also recommend small reductions in a number of other programs.

### CONCLUSION

Mr. Chairman, I would like to conclude by thanking you and the Committee for your support through the years. As I have said in my statement, we want to position APHIS to meet the challenges of the future and we value your insight as to the actions needed to meet these challenges. I thank you for the time and would be glad to answer any questions.

## BIOGRAPHICAL SKETCHES

### LONNIE J. KING

Dr. Lonnie J. King is Deputy Administrator for Veterinary Services (VS). Dr. King is a native of Wooster, Ohio, received his BS (1966) and DVM (1970) degrees from the Ohio State University. He also earned his MS degree in epidemiology from the University of Minnesota while on a special USDA assignment in 1980. Dr. King is a diplomate of the American College of Veterinary Preventive Medicine and has recently completed the Senior Executive Fellowship program at Harvard University.

Dr. King was engaged in private veterinary practice for 7 years in Dayton, Ohio, and Atlanta, Georgia. He served in a variety of positions in APHIS-VS from 1977-1987. Those positions included field veterinary medical officer (Georgia) and station epidemiologist (Texas). He spent 5 years in Hyattsville, Maryland, in staff assignments both in Emergency Programs and Animal Health Information. During this time, Dr. King directed the development of the Agency's National Animal Health Monitoring System.

For a year prior to his appointment as Deputy Administrator, Veterinary Services, Animal and Plant Health Inspection Service (APHIS), USDA, Dr. King served in Washington, D.C., as Director of the Governmental Relations Division for the American Veterinary Medical Association. He has extensive contacts with a large segment of the veterinary profession through his work with other governmental agencies, universities, major livestock and poultry industry groups, and private practitioners. He maintains a high level of interest in public veterinary medicine through his experience and program initiatives.

Dr. King resides in Columbia, Maryland, with his wife, Sylvia and 2 children.

### C. JOE PACKHAM

C. Joe Packham is Deputy Administrator for the Animal Damage Control program. Prior to that, since October 1987, he served as Associate Deputy Administrator for Animal Damage Control.

Mr. Packham was born on March 4, 1937, in Ogden, Utah. He earned a Bachelor of Science degree in Wildlife Management from Utah State University in 1963. After graduation, he began his career as a District Supervisor for Animal Damage Control in Boise, Idaho, where he supervised field staff and program activities dealing with major predators, rodents, and birds. In 1967, he was transferred to Riverside, California, as District Supervisor, where he supervised the program in five southern counties of California, with emphasis on rabies control in San Diego County and nuisance species control in Los Angeles County. From 1968 to 1970, he was the Forest Animal Damage Specialist in Sacramento, California, providing expertise in reforestation damage to the Bureau of Land Management, U.S. Forest Service, and the State of California. In 1970, Mr. Packham was appointed Assistant State Director for Idaho, where he served until 1974. In 1974, he was transferred to Washington, DC, as an Animal Damage Control Staff specialist. In 1976, he became Senior Staff Specialist in the Regional Office in Portland, Oregon, where he was the technical expert on the U.S. Fish and Wildlife Service's regional staff with responsibility for developing program budgets and oversight for State programs. From 1979 to 1982, Mr. Packham served as Wildlife Staff Specialist, based in the Area Office in Boise, Idaho. In 1982, he was promoted to State Director, responsible for management and direction of the Animal Damage Control program for Idaho and Nevada from 1982-85, and Idaho alone from 1985 until October 1987, when he was promoted to Associate Deputy Administrator and transferred to Washington, DC.

Mr. Packham currently lives in Reston, Virginia, with his wife, Betty. The Packhams have seven children.

### RICHARD R. BACKUS

Mr. Richard R. Backus is currently serving as Acting Deputy Administrator of the Plant Protection and Quarantine (PPQ) programs of the Animal and Plant Health Inspection Service (APHIS). He has been Associate Deputy Administrator of PPQ since October 10, 1988. Mr. Backus was born in Kiel, Wisconsin, on November 15, 1937. He earned a Bachelor of Science degree in Agriculture from the University of Arizona in 1960.

After receiving his undergraduate degree, Mr. Backus began his Federal service in 1962 with the Agricultural Research Service in El Paso, Texas, as a PPQ Inspector, and later was promoted to Supervisor. In 1973, he transferred to Hyattsville, Maryland, where he held various staff positions with the APHIS Port Operations Development staff until 1980. Mr. Backus worked as Chief Staff Officer of the Pest Program Development Staff (1980–1982), Associate Director of the National Planning Staff (1982–1984), Assistant to the Deputy Administrator (1984–1986), and Assistant Deputy Administrator for National Programs (1986–1988).

Mr. Backus currently resides in Bowie, Maryland, with his wife Carol and their three children.

---

## MICHAEL C. GREGOIRE

Mr. Michael C. Gregoire is serving as Acting Director, Budget and Accounting Division (BAD), of the Animal and Plant Health Inspection Service (APHIS). He has been the Deputy Director of BAD since December 7, 1986. Mr. Gregoire was born in Buffalo, New York, on December 10, 1954. He earned a Bachelor of Arts degree in political science from Niagara University in 1976, and a Masters Degree in public administration from George Washington University in 1983.

After receiving his undergraduate degree, Mr. Gregoire worked for 2 years as a Social Welfare Examiner with the Erie County Department of Social Services in Buffalo, New York. He began his Federal career with APHIS in 1978 and since then has served in progressively responsible roles as a Budget Analyst and Manager with BAD. In early 1986, he served as Chairman of APHIS' transition team, which planned and coordinated the successful transfer of the Animal Damage Control program from the Department of the Interior to APHIS.

Mr. Gregoire currently resides in Crofton, Maryland, with his wife Jane and two daughters.

---

## Statement of Dr. Lester M. Crawford

Mr. Chairman, I am pleased to appear before this Subcommittee to discuss the budget of the Food Safety and Inspection Service (FSIS) for fiscal year 1990.

Since passage of the Wholesome Meat and Poultry Inspection Acts in 1967 and 1968, the Food Safety and Inspection Service has been steadily building toward an effective, risk-based system of inspection that employs the latest technology. This long range objective was reaffirmed by the 1985 National Academy of Sciences report on meat and poultry inspection, which defined the optimal inspection system as being, "An inspection system with different levels of intensity, reflecting the degree of public health risk at various stages in the process, the reliability of the monitoring system, the compliance history of the slaughterhouse or processing plant, and the special needs of the intended consumer . . ."

Before getting into the specifics of our fiscal year 1990 budget request, I would like to give you a brief overview of the scope of the work of FSIS. Our Agency's mission is performed in over 7,100 meat and poultry plants under Federal inspection. This number consists of 376 slaughter plants, 4,861 processing plants, 1,341 plants with a combination of slaughter and processing operations, 322 Talmadge-Aiken plants in which State employees perform Federal inspection, and 212 import facilities where imported product is reinspected.

The mission of the Agency is to ensure that meat and poultry products are safe, wholesome, and accurately labeled. Last fiscal year, our inspectors examined 119 million red meat animals, almost 5.6 billion birds, and supervised production of 71.9 billion pounds of processed meat and 78.5 billion pounds of processed poultry. In addition, they reinspected 2.8 billion pounds of imported meat.

Of the red meat animals inspected in fiscal year 1988, about 366,000 carcasses, or .31 percent were condemned. In poultry inspection about 67 million birds were condemned, or 1.19 percent of the total number inspected. Carcasses were condemned if they were diseased, contaminated, or otherwise unsafe or unfit for human consumption. The Agency also refused entry to 13 million pounds of imported product which failed to meet Federal requirements.

Supporting the inspectors, we have a highly skilled technical and scientific staff that provides laboratory testing services, reviews and approves labels used on products, approves plant facilities and equipment, develops new product standards and inspection procedures, and advises industry and consumers on safe food preparation and handling practices. In fiscal year 1988, Agency laboratories analyzed 463,634 samples for residues and adulterants. This number includes 256,367 rapid on-site tests performed by inspectors in plants. The Agency also reviewed 183,000 proposed labels for meat and poultry products to ensure that they were not misleading, and accurately listed product ingredients.

### FISCAL YEAR 1990 BUDGET

The FSIS budget request for fiscal year 1990 builds on the accomplishments of recent years, with specific program improvements targeted to our main goal of modernizing and re-orienting our inspection program on a risk basis.

We have requested a total of $422.8 million for fiscal year 1990: $242.2 million for slaughter inspection, $98.8 million for processing inspection, $10.8 million for import and export inspection, $32.7 million for laboratory services, and $38.3 million for grants to states. This is an increase of $17.8 million over the amount appropriated for fiscal year 1989.

#### *Maintenance of Current Program Level*

Of the $17.8 million increase, $9.3 million will be required to finance the rising costs of goods and services used by the Agency in providing inspection services. These costs include the rising Agency contributions to the Federal Employees Retirement Fund, increases in Federal salaries, the higher costs of goods and services provided by the private sector, and the rising cost of cooperative State inspection programs. An increase in funding to cover these mandatory expenses is necessary if the Agency is to continue to maintain its program at the current staffing and service levels.

#### *Improved Processing Inspection*

In the area of Improved Processing Inspection, we are in the process of issuing regulations to implement discretionary risk based inspection by reducing the frequency of inspection in qualified plants, and increasing inspections in problem plants. Assuming that the regulations will be implemented on schedule, we are budgeting a net reduction in costs of $.9 million. This is the result of an annual saving of $4.6 million, made possible by reductions in the number of processing inspectors, and an increase of $3.7 million in Discretionary Inspection first year implementation costs of installing the personnel and management systems required to oversee the new processing inspection program.

#### *Residue Monitoring and Control*

Critical to our goals of modernizing inspection and reorienting it on a more scientific basis is an expansion of our laboratory and inplant residue monitoring programs for which we are requesting an additional $5.6 million in fiscal year 1990.

The National Academy of Sciences report on poultry inspection issued in May 1987 recommended a risk based inspection program which would include increases in the rate of sampling and testing for microbiological and chemical residues. The 1990 budget request includes funds for expansion of both the rapid inplant tests performed on site, and expansion and strengthening of the laboratory testing program.

In 1988, FSIS responded to nationwide concerns about sulfamethazine residues in meat products by installing, in the 100 largest swine slaughtering establishments, an inplant testing program, called Sulfa-on-Site. Use of such rapid tests as the Sulfa-on-Site test, the Swab Test on Premises, and the Calf Antibiotic Sulfa Test allows field inspectors and compliance officers to detect antibiotic and other chemical residues in meat or poultry within a few hours.

This ability to quickly detect certain residues is one of the most significant advances in inspection procedures in recent years. The previous procedure required sending samples to a laboratory for testing and took up to two weeks to obtain results. The development of on site testing is still in its early stages and rapid tests exist only for a few residues. The Agency is working on developing new rapid tests, and is also expanding the laboratory testing programs for detecting chemical and microbiological contamination of meat and poultry food products.

The Agency will expand the risk assessment program, which evaluates the risk levels associated with 450 chemical compounds that might be found in meat and poultry products. At present we have profiles of only about 100 of these potential threats to health. The 1990 requested increase will enable the Agency to accelerate its review of additional compounds from the current level of about 10 per year to 50 per year.

FSIS is developing a quality assurance program for laboratories to assure that Federal, State, contract, and FSIS-accredited laboratories maintain proper quality levels in test performance, facilities, equipment, staff qualifications, and the handling of data. For each of these laboratory types, FSIS monitors laboratory performance through quality assurance programs for various analytical tests. As the number of laboratory tests of samples drawn by inplant inspectors will increase, additional staff will be needed to process the added workload.

In 1989, FSIS plans to propose a regulation for industry participation in a voluntary Residue Control program that will include specific methods for residue control. We expect a large portion of the meat and poultry industry will be interested in participating in the program. While some additional resources will be required, we expect a significant strengthening of our program in return for a relatively small investment.

### *Slaughter Inspection Staffing*

In recent years, the Agency's slaughter inspection work force has been declining while industry production particularly in poultry slaughter has been rising.

Expansion in plants, in the form of new slaughter lines and work shifts, has been adding an average of 100 new slaughter inspection stations per year. Streamlined inspection procedures enabled the Agency, in recent years, to absorb most of this additional workload, however a portion of the demand for increased inspection service has had to be provided by the use of intermittent employees, occasional coverage by an inspector or supervisor of more than one assignment, and by the detailing of processing inspectors to slaughter stations.

The new processing inspection program scheduled for implementation in 1990 will not permit continued use of processing inspectors to perform slaughter inspection on a temporary basis. An increase of $2.3 million has been included in the 1990 budget request to enable FSIS to provide for the full coverage of all slaughter inspection assignments.

### *Training in New Inspection Procedures*

The 1990 request also includes $1.6 million to expand the Agency training program to provide the trained staff needed by the Improved Processing System. These funds will provide training for 100 new Food Technologists, 75 percent of whom will be converting from processing inspector positions, and for 40 current and new circuit supervisors.

## MODERNIZATION OF LABELING POLICIES

Many recent reports, including those from the Surgeon General and two reports from the National Academy of Sciences, have emphasized the importance of the composition of total diet throughout life. These reports generally avoid labeling foods as either good or bad, but focus on the fact that most foods can be part of a "healthy" diet, if the amounts and the frequency of consumption are balanced in relation to other food choices. The reports have recommended more informative labeling to help consumers achieve such a balance in their diets and, to assist the consumer in making dietary decisions. In response to this need, the Department of Agriculture and the Food and Drug Administration have formed a joint task force to coordinate the collection of background information on present USDA and FDA laws, regulations, and philosophies, and to develop recommendations on how to best modernize and harmonize the dissemination of nutrition, diet, and health information through labeling.

## SULFAMETHAZINE TESTING PROGRAM

In March 1988, FSIS began intensified testing of swine to detect sulfamethazine residue violations. This was prompted by continuing problems with violative levels of the drug in food products and by release of a study by the National Center for Toxicological Research that linked the drug to thyroid gland tumors in mice. Similar concerns led Japan to consider banning imports of U.S. pork because of sulfamethazine residues. Initially, two samples of swine muscle tissue were taken each week in each of the 100 largest swine slaughtering plants, which account for 98 percent of the hogs slaughtered in the United States. The FSIS-approved laboratory test for muscle tissue analysis was used. Under the muscle testing program, which ended in June, 29 violations were found among 1,607 samples collected.

Use of a rapid urine screening test performed in the plant, known as the Sulfa-on-Site (SOS) test, began in April and gradually replaced the muscle test in the 100 plants, as testing supplies became available and inspectors were trained in their use. Using the SOS test, inspectors in swine slaughtering plants can identify sulfamethazine residues in a matter of hours as compared to one to two weeks that they formerly had to wait for the results of a laboratory test. Under the SOS program, six samples are taken each day for testing in each of the 100 largest swine slaughter plants. If SOS test results indicate a residue violation, the inspector retains the carcass. Upon confirmation of violative residue presence by laboratory testing of the muscle tissue, those carcasses containing the violative residue levels are condemned.

During fiscal year 1988, 52,000 SOS tests were performed and 266 violations were confirmed by laboratory testing of the corresponding muscle tissue. Through February 8, 1989, a cumulative total of over 97,000 SOS tests have been reported with 413 confirmed violations. Through interagency cooperation, each of the violations which could be traced to a farm of origin or a distributor was investigated by the Food and Drug Administration.

The FSIS National Residue Program conducts a random sampling program at all swine slaughter plants. The testing of liver tissue under this program detected a 3.8 percent violation rate for sulfamethazine for 1987. In contrast, for 1988 the violation rate is 1.6 percent. These figures indicate that our intensified testing program, combined with industry cooperation in preventing the improper use of the drug, has been effective in reducing the violation rate for sulfamethazine.

## MICROBIOLOGICAL CONTROL

In October, an outbreak of illness occurred among students at a junior high school in Minnesota. Epidemiologists of the Minnesota State Department of Health determined that commercially pre-cooked beef patties caused the illness, although the specific strain of *Escherichia coli* bacteria that was involved could not be isolated from the patties. FSIS issued a proposed regulation in December to respond to this incident, as well as to increasing evidence that foodborne pathogens survive in products that many consumers mistakenly consider to be fully cooked, such as "partially cooked char-broiled beef patties" and "partially cooked breaded veal patties." For cooked, uncured meat patties, the proposed rule would establish requirements for storage of raw ingredients, processing times and temperatures, handling to prevent contamination after processing, and labels that include cooking instructions for final preparation. These requirements should reduce the potential for foodborne illness from consumption of these products.

The National Advisory Committee on Microbiological Criteria for Foods began its work in March 1988. The Committee is a joint venture of USDA, the Center for Food Safety and Applied Nutrition of the Food and Drug Administration, the National Marine Fisheries Service, and the U.S. Army Natick Research and Development Center. Following a recommendation of the National Academy of Sciences, the Committee is developing microbiological criteria for foods based on application of the Hazard Analysis of Critical Control Point (HACCP) principles to ensure that good processing controls are maintained throughout production to avoid microbiological contamination, and to assure the production of safe and wholesome products.

One of the first subjects reviewed by the Meat and Poultry Working Group of the committee is the "new generation" of prepared refrigerated foods. This product category is one showing tremendous growth. The Committee's charge is to recommend to FSIS the optimal method for regulating the safety of these products. The recommendations will require that these products containing meat or poultry be negative for *Salmonella* bacteria, negative for *Listeria monocytogenes,* and the process used to prepare and cook the products be proven to eliminate the potential for toxin production from *Clostridium botulinum.* The working group's suggestions will also cover distribution, labeling, and consumer education information for these products. The full Committee will soon review the draft working paper prepared by the meat and poultry working group preparatory to making its recommendations. Later this year, the meat and poultry working group will begin to develop recommendations for microbiological criteria for the production of raw poultry products.

FSIS is continuing its development and testing of microbial risk management at a poultry plant in Puerto Rico, focusing on the critical points in the production process where bacterial contamination is most likely to occur. FSIS is introducing various modifications in production and processing procedures, and assessing their impact on product quality. Experimental investigations are being implemented in growout houses, scalders, pickers, eviscerating equipment, and chillers to see if product contamination can be prevented, reduced, or controlled. Baseline data was established from microbial samples taken before the pilot program changes were inaugurated, to enable the Agency to evaluate the effectiveness of the risk management methodology.

Initial findings suggest that the principal risk of *Salmonella* contamination occurs at an early stage of processing. There are some indications that this early contamination may be coming from the exterior of the birds rather than from subsequent evisceration procedures. To investigate possible sources, FSIS has gone back to the producing farm to take samples of feed, water, and feces. It appears likely that success in controlling microbial contamination will require controlling every facet of the production process from the time the chicken is hatched to the time it is consumed. As we find processing changes that have a significant effect on the microbial load in the pilot plant, we will encourage other plants to institute similar changes.

We had hoped to use the Puerto Rican project to take another look at the issue of poultry reprocessing, about which a 1988 study raised new questions. However, for economic reasons, the pilot plant discontinued reprocessing. FSIS has asked USDA's Agricultural Research Service to undertake a new and expanded reprocessing study at its poultry research center in Athens, Georgia. This study is now under way. The protocol for the statistically based study, which has been reviewed by four external experts, requires three trials, with a sampling of 500 birds per trial 100 from each of five plants—and analyses for *Salmonella, E. coli,* and total microbial load.

The goal of the study is to compare the microbial quality of on-line birds passed by inspectors with contaminated birds that were removed from the line and reprocessed. On the basis of preliminary data from the study, there does not appear to be a significant difference in microbial quality between on-line birds and reprocessed birds. Further investigations being incorporated in the experimental protocol will indicate whether birds selected for reprocessing are universally contaminated with these bacteria. Reducing microbial contamination will remain a high priority in FSIS. We will continue to address the problem of *Salmonella* and other types of microbial contamination until solutions are found.

### STREAMLINED INSPECTION SYSTEM

In response to public requests, FSIS reopened the comment period for a proposed rule concerning the streamlined inspection system for cattle for an additional 90 days. All commentators will have until May 15 to submit their views, and we will want to review all these comments before proceeding further with rulemaking.

The Agency developed a streamlined inspection system for cattle in the early 1980's and has been testing the system since 1984. Five slaughterhouses volunteered to have the system tested in their facilities. In the system, plant employees trim bruises and other defects from carcasses under the supervision of Federal inspectors.

Final inspection of the product is performed by the Federal inspectors. The system allows USDA inspectors to spend more time detecting animal diseases. Federal inspectors—including those assigned to plants in which the streamlined inspection system is being tested—have the authority to temporarily slow down or stop a plant's operations when problems occur and corrective action is needed. Inspectors are present and will continue to be present during slaughter at all federally inspected establishments. We are developing a similar streamlined inspection system for swine. Earlier, a streamlined inspection system was introduced for broilers and Cornish game hens, with a final rule that was effective in December 1988.

The streamlined inspection system follows recommendations by the National Academy of Sciences contained in a 1985 study on meat and poultry inspection. The Academy suggested that FSIS take a more scientific approach to inspection, as opposed to traditional methods of visual inspection. The system permits us to focus our resources on public health hazards and control aesthetic defects through industry-operated quality control programs or other statistical methods subject to Agency monitoring.

### IMPROVED PROCESSING INSPECTION

FSIS has received, and is reviewing, a large number of comments on the proposed rule concerning implementation of Improved Processing Inspection.

The Federal Meat Inspection Act, as amended, permits USDA to exercise greater flexibility in applying inspection resources in processing and to permit decisions about varying inspection frequency to be based on public health risk and plant compliance factors. Total quality control inspection, and the intensified regulatory enforcement program, initiated the concept of inspection plans. Last year's implementation of the inspection system and work plan added the concept of a monitoring plan to structure and prioritize inspection activities.

We are now building on these improvements in Improved Processing Inspection. We are implementing the performance-based inspection system after thorough pilot testing. A key tool of this system is the automated data support system in the area offices, which will generate inspection assignments, record inspection findings, and determine the appropriate intensity of subsequent inspection assignments. The computerized system allows us to systematically track the smooth-running plant systems, those with an occasional isolated problem, and those with continual problems that could affect public health. Over time, we plan to upgrade our automated data support system and to enhance the scientific and risk assessment bases for processing inspection.

FSIS had expected that implementation of the law to allow for reduced inspection in processing plants with good controls would result in reductions in program costs. It now appears that the pace of implementation of variable frequency inspection must be more deliberate.

Mr. Chairman, this concludes my statement. Thank you for the opportunity to testify on the Agency's needs. I will be glad to answer questions you or other members of the Committee may have.

---

## Biographical Sketch

### WILLIAM J. HUDNALL, JR.

Mr. William J. Hudnall, Jr. was appointed Deputy Administrator, Administrative Management in November 1989. Previously, he had been the Assistant Deputy Administrator. Mr. Hudnall began his career with USDA in 1971 and has held a variety of positions in several agencies including the position of Personnel Director for both the Animal and Plant Health Inspection Service and the Food Safety and Inspection Service.

Mr. Hudnall is a native Virginian. He attended the University of Virginia earning a B.A. in 1965.

---

## Statement of J. Patrick Boyle

Mr. Chairman and Members of the Committee, I appreciate the opportunity to appear before you today to discuss the programs of the Agricultural Marketing Service (AMS) and to present our fiscal year 1990 budget request. Accompanying me today are Kenneth C. Clayton, Deputy Administrator for Marketing Programs; Linda P. Massaro, Deputy Administrator for Management; and Joseph A. Roeder, Director of the Financial Management Division.

### AGRICULTURAL MARKETING SERVICE—ITS PROGRAMS, SERVICES, AND REGULATORY FUNCTIONS

For 76 years, AMS has been assisting in the complex process of moving food and fiber products from producer to consumer. This assistance is provided through a vast array of marketing programs and regulatory functions. These activities are administered through nearly three dozen statutes, including:

—the Agricultural Marketing Act of 1946 authorizing the standardization, grading, and market news programs;
—Section 32 of the 1935 Act authorizing our commodity procurement activities;
—the Agricultural Marketing Agreement Act of 1937 authorizing our marketing agreements and orders programs for milk, fruits, vegetables, and nuts;
—eight commodity-specific research and promotion laws authorizing programs for beef, cotton, dairy products, eggs, honey, pork, potatoes, and watermelon; and
—the Egg Products Inspection Act, and many other acts.

Before I present our budget request, I would like to briefly highlight some of our accomplishments of the past year; accomplishments which continue the agency's 76-year tradition of service to American agriculture.

### FISCAL YEAR 1988 PROGRAM ACCOMPLISHMENTS

During fiscal year 1988, AMS completed an agency-wide review of our laboratory operations and established a new science and laboratory division to coordinate the efficient use of our 52 laboratories and to direct their quality assurance, safety, and training programs.

AMS chaired meetings of the newly established National Advisory Committee on Cotton Marketing during fiscal year 1988. We are currently working with the committee, other agencies within the Department, and the cotton industry to implement recommendations made by the committee. These recommendations include a requirement that high volume instrument classing be mandatory for Commodity Credit Corporation loan eligibility by the 1991 crop. This change will allow implementation of a premium and discount schedule for fiber strength.

Also in the cotton program, we established new spot cotton quotation rules in fiscal year 1988. Since industry quotation committees were discontinuing their participation in determining quotations, AMS assumed responsibility for development and publication of these market news reports. We also expanded the service to include the volume of trading on which the quotations were based.

In our tobacco grading program, AMS and the North Carolina State University have been working together to analyze the feasibility of utilizing infrared instruments to increase objectivity in grading tobacco. These instruments measure the moisture, nicotine and sugars of tobacco at the auction markets. These factors are of primary importance to manufacturers in purchasing tobacco.

Another effort we made to improve the grading of tobacco is in the area of personnel. We requested and received permission from the Office of Personnel Management to implement special salary levels for our tobacco grading work force. This effort resulted from our concern that governmentwide wage levels were inadequate to attract and retain the caliber of employees necessary to provide a consistent, high quality level of user-financed grading services.

Tobacco market news reporters have successfully utilized hand-held computers to collect and process auction data during the 1988 flue-cured tobacco season. Hand-held computers have enabled market reporters to collect more data with increased accuracy in a shorter amount of time and have provided easier processing of data into useful market information.

Throughout the past year, AMS grading services facilitated the international sales of U.S. beef, egg and poultry products under the Export Enhancement Program—an export assistance program conducted under the authority of the Commodity Credit Corporation.

The USDA Select beef grade was implemented in early fiscal year 1988 at the request of consumers, health, and industry organizations to identify leaner cuts of meat. Today's volume of beef graded USDA Select has quadrupled from that of a year ago.

In 1984, the Perishable Agricultural Commodities Act (PACA) trust notice provisions were established. During fiscal year 1988, AMS received approximately 55,000 trust notices protecting more than $338 million worth of accounts receivable. There may be as many as 60,000 trust filings received in fiscal year 1989.

We are in the final stages of establishing a 20-member Industry Advisory Committee which will make recommendations to USDA and Congress on possible improvements to the PACA. This Committee was required by an August 1988 amendment to the Act.

During 1988 in our commodity procurement program for the National School Lunch and other domestic feeding programs, AMS spent $46 million on bulk ground beef and ground pork in addition to planned Section 32 purchases of these products in an effort to offset the impact of the drought on cattle and pork producers.

Also, in 1988 significant progress was made in the development of the Processed Commodity Inventory Management System (PCIMS). This joint venture with the Food and Nutrition Service and the Agricultural Stabilization and Conservation Service will result in the implementation of a sophisticated computer-based system in which she orders for food are collected, bids are analyzed, and purchases made. Improvements to the program will result in our ability to buy more food for the dollar in these programs.

During 1988, efforts in our industry-funded commodity research and promotion programs included industry referenda to determine whether to continue the Beef Research and Promotion; and the Pork Promotion, Research, and Consumer Information programs. A majority of beef and pork producers and beef importers favored continuation of the programs.

In our Egg Products Inspection Program, AMS has been working with the Food and Drug Administration, other USDA agencies, and the Centers for Disease Control to identify research needs for the *Salmonella enteritidis* problem in eggs. A comprehensive action plan developed by this group calls for the States to initiate a voluntary testing program on breeders and commercial layers originating from breeders found to be infected with *Salmonella enteritidis* or implicated in a foodborne outbreak of human illness.

### NEW STATUTORY AUTHORITY UPDATE

Several provisions contained in the Omnibus Reconciliation Act of fiscal year 1987 affected AMS programs and regulatory responsibilities.

The first provision gave AMS the authority to retain and invest application fees collected under the Plant Variety Protection Act. In December 1987, we began retaining these fees. This will allow the discontinuation of appropriations for this program in 1990.

The second provision amended the Agricultural Marketing Agreement Act of 1937 to permit USDA to impose civil penalties up to $1,000 per violation on any handler who violates a non-assessment marketing order provision. In conjunction with this provision, AMS initiated a cooperative effort between USDA and the Department of Justice to improve compliance with and enforcement of federal marketing orders. Additionally, AMS established an internal adjudication process to provide a more timely resolution of many of these cases.

Finally, AMS continued to collect assessments from dairy producers on behalf of the Commodity Credit Corporation (CCC). The total amount collected on behalf of CCC by AMS under the various dairy programs is nearly $2.3 billion. The administrative cost to CCC was approximately one-tenth of one percent of the total assessments collected.

### BUDGET PROPOSAL

Mr. Chairman, I would now like to address the specifics of our fiscal year 1990 budget proposal. As in the past, AMS remains committed to minimizing costs in operating our programs to reduce our appropriated budget.

Specifically, we are proposing a net reduction of $5.4 million in our Marketing Services account—representing a 16 percent decrease.

We are proposing a $6.8 million reduction in our Section 32 Administrative fund—a 60 percent decrease.

And, we are again proposing to phase out the Federal-State Marketing Improvement Program (FSMIP); thus reducing our appropriated needs by nearly $1 million.

These reductions will be achieved in one of two ways: either by converting programs from an appropriated to a user-fee basis or by eliminating programs which can be provided by other sources.

### FISCAL YEAR 1990 LEGISLATIVE PROPOSALS

Legislation will be required to convert the source of funding from appropriations to user fees. Specifically, AMS proposes to charge user fees to:

—Recover the $3.7 million cost of developing and revising commodity standards. The cost of this work will be incorporated into existing grading fees, increasing them by an average 3.3 percent.

—Recover the $8.8 million cost of administering marketing agreement and orders programs for milk, fruits, vegetables, and nuts.

—Recover the $30,000 cost of postage, printing, and handling of tobacco market news reports. This is the last remaining printed market news report which AMS provides free-of-charge.

As noted earlier, Mr. Chairman, AMS has consistently and successfully pursued efforts to transfer program costs from the general public to the primary beneficiary. Our fiscal year 1990 user fee proposals are a continuation of that effort.

In order to accomplish this conversion to user fees, we are requesting one-time funding of $523,000 to fund liabilities such as annual leave and workers' compensation which were accrued while these programs were appropriation supported.

### FISCAL YEAR 1990 PROGRAM ELIMINATIONS

Our 1990 budget proposal also includes elimination of three programs, resulting in a reduction of $3.6 million from the fiscal year 1989 totals. These reductions include:

—$1.6 million for the Wholesale Market Development program, a consulting service to state and local governments planning wholesale food terminals or alternate marketing methods.

—nearly $1 million for FSMIP which provides federal matching grant funds to State Departments of Agriculture for market development initiatives; and,

—$1.0 million for the elimination of AMS activities authorized by the Federal Seed Act, which is a truth-in-labeling law similar to statutes that are administered and enforced in every state. Legislation is required for this latter proposal.

We are proposing elimination of these programs because the services provided by these programs are local in nature. In our view, the States and industries which benefit are able to carry on these services themselves.

In order for AMS to eliminate these programs in an orderly manner and to pay for accrued liabilities, such as annual leave, we are requesting a one-time appropriation of $1.7 million.

### FISCAL YEAR 1990 PROGRAM INCREASES AND TRANSFERS

In addition to user fee conversions and program eliminations, our 1990 budget proposal includes program increases for market news and funds to offset increased operating costs.

We are proposing an increase of $448,000 for our Market News program to continue development of a market news data base and communications network that will provide a structured and consistent data reporting format for our users.

We are also requesting $579,000 to offset increased costs in non-salary operating expenses, such as travel, printing, and telephone charges.

Finally, we are proposing to transfer $777,000 from the Marketing Services account to the Section 32 fund for our governmentwide food specification program. This accounting change is budget neutral and will make it possible to finance all commodity procurement-related activities from the same funding source.

### SUMMARY OF BUDGET PROPOSALS

To summarize our request, under current law the 1990 marketing services request is $32.2 million, $1.1 million less than the fiscal year 1989 level. If proposed legislation is enacted, the marketing services appropriation will be further reduced by $4.2 million to $28.0 million.

Under current law the Section 32 request is $12.3 million, $1.0 million more than the fiscal year 1989 level. This increase is due primarily to the transfer of the governmentwide food specification program from Marketing Services. The total request would be reduced by $7.8 million if proposed legislation were enacted.

This concludes my statement, Mr. Chairman. At this time, I would be glad to answer any questions regarding our program activities or proposed budget.

---

## Biographical Sketch

### KENNETH C. CLAYTON

On October 23, 1989, Kenneth C. Clayton was appointed Deputy Administrator for Marketing Programs, Agricultural Marketing Service (AMS), U.S. Department of Agriculture (USDA). He is responsible for program management and direction of AMS marketing services, including the development of commodity standards; commodity grading, classing and inspection for quality; commodity procurement; and the market news program. He also oversees AMS regulatory programs, including marketing orders and agreements, as well as research and promotion programs for beef, cotton, eggs, dairy products and other commodities.

Before joining AMS, Dr. Clayton spent a year and a half on assignment with the Office of the U.S. Trade Representative (USTR). His chief responsibility was agriculture in the Uruguay Round of Multilateral Trade Negotiations, including development of the U.S. proposal on agriculture and other activities associated with the GATT round. While at USTR, Dr. Clayton also participated in the negotiation on the U.S./Canada Free Trade Agreement.

Dr. Clayton previously held the position of Deputy Administrator, Economic Research Service (ERS), USDA. He also served as Director of the National Economics Division, ERS.

Over the past several years Dr. Clayton has led the U.S. delegation to the Committee for Agriculture at the international Organization for Economic Cooperation and Economic Development (OECD). He currently serves as Chairman of the OECD Committee for Agriculture.

Before joining USDA, Dr. Clayton was on the faculty of the University of Florida.

Dr. Clayton received a B.S. degree in agricultural economics from Rutgers University and a M.S. and a Ph.D. in agricultural economics from Purdue University.

### RUSSIAN WHEAT APHID

Senator BURDICK. In view of the time situation, we will start immediately with questions and other Senators present may develop their ideas at that time.

I assume you are familiar with the report of the National Russian Wheat Aphid Technological Advisory Group that recommends a $95 million, 10-year program with roughly two-thirds of the money coming to the Federal Government. What is your assessment of that proposal? Have you outlined a program that you could undertake to combat this pest? If so, what is it and what is contained in the budget of the USDA for this pest?

Dr. GLOSSER. We are aware of the 10-year plan that was put together by the broad-based industry, academia, and State governments. Our staff members provided much of the technical information necessary to wage a full eradication containment program of the Russian wheat aphid.

We have not analyzed totally whether those projections are required. It does, in our view, indicate a broad base of support, not only financial, but a program commitment to get the job done.

We feel with respect to the 1990 budget, we are prepared to invest $750,000 of our biocontrol budget to rapidly obtain new predators for the Russian wheat aphid, rear them and go into collaboration with our State counterparts and follow up with field evaluation. We had six evaluation plots undergoing review this past year. We need to do much more work.

Senator BURDICK. Any other responses to that question from the members of the panel? If not, I note your request for the increase of $2,382,000 for biocontrol. Of this amount, how much would go for the work on the Russian wheat aphid, how much of the increase would go for leafy spurge?

Dr. GLOSSER. As I mentioned, $750,000 of that $2.3 million would go to Russian wheat aphid. There would be significant increases to continue the work on the leafy spurge. I do not have the exact numbers that we have projected for the leafy spurge but we would be happy to respond.

Senator BURDICK. The information I have is $750,000.

Dr. GLOSSER. For the Russian wheat aphid.

### LEAFY SPURGE

Senator BURDICK. But we do not know how much for leafy spurge?

Dr. GLOSSER. No; we have not provided that.

Senator BURDICK. Could you supply that for the record?

Dr. GLOSSER. Yes, we would.

[The information follows:]

We have requested an increase of $500,000 for leafy spurge.

### SWINE BRUCELLOSIS

Senator BURDICK. Are you aware of the proposal by the National Pork Producers Council to eradicate swine brucellosis in the next 3 years? What is your assessment of the feasibility and the cost of this proposal? How much of the 1989–90 budgets are designated for swine brucellosis work?

Dr. GLOSSER. Although we have not seen a copy of the council's final proposal, we are familiar with its contents. Our conditional assessment is that the plan is technically feasible and may be advantageous from a cost-benefit standpoint. Given our progress to date in reducing the prevalence of swine brucellosis to a small number of States, coupled with the ability to achieve further cost savings by tying certain program activities to those of the recently initiated 10-year pseudorabies eradication program, it may be appropriate to consider accelerated measures to rapidly eradicate this disease at this time. However, we do have some concern about how to deal with the problem of feral swine populations in certain States, which would serve as a vehicle for reinfection. The problem does not appear insurmountable, however, and meetings are scheduled between APHIS and industry representatives to explore solutions. We have earmarked $674,000 annually for swine brucellosis work in fiscal years 1989 and 1990.

### IMPROVED PROCESSING INSPECTION

Senator **Burdick**. The committee received notice of postponement of final regulations on the Improved Processing Inspection Service system, although hearings have been held. Why did you postpone the final regulations? Is it true that both consumer and industry groups asked FSIS to defer the regulations and what were the reasons that both groups objected to the proposed regulations?

Dr. **Crawford**. We made the decision to do several things with respect to Improved Processing Inspection. Based on the comments we received on the various aspects of implementation of the 1986 amendment to our law, there was no general agreement among the comments on how that should be accomplished. There was little consensus, as you said, between consumer groups and industry individuals with respect to the nuts and bolts of the program.

In order to achieve consensus we elected, based on the comments, to conduct a series of public hearings on the matter which will take place late this spring or early this summer, and we will put the various aspects of the proposal that have been asked to reconsider on the table, receive public commentary, and then ultimately repropose those aspects of the proposal.

Senator **Burdick**. There will be field hearings?

Dr. **Crawford**. Yes, sir; we have not finally decided where the hearings will be held and what will be the mix of regional hearings as opposed to a hearing here in Washington. There will be more than one hearing and our current plan, although not finalized, would hold regional hearings in each of the five regional offices that we have around the country.

Senator **Kerrey**. Mr. Chairman, would you yield for a followup question?

Senator **Burdick**. Well, yes. I will yield for more time to you.

Senator **Kerrey**. I have a question regarding the hearings. The press release seems to indicate that some of the proposal is going to be implemented right away while hearings will be held on other parts. Are you going to permit comments during the public hearings on all aspects of IPI? Are any parts of the proposal going to be implemented right away?

Dr. **Crawford**. The announcement indicated that we would finalize at some date relatively soon, the principles of risk-based inspection. It will not be implemented until such time as we have these hearings and also repropose the various aspects of improved processing inspection. So it will be put in abeyance until such time as we reach agreement on these contentious aspects.

Senator **Kerrey**. Just to clarify so I am sure there is no misunderstanding, I hear you saying no implementation. Principles only are going to be published. The hearings will permit comments on all aspects of the proposal.

Dr. **Crawford**. Correct.

Senator **Burdick**. Do you have any further questions?

### FEDERAL-STATE MARKETING IMPROVEMENT PROGRAM

Senator **Kerrey**. I have one other question that I would like to ask, Mr. Chairman, and it has to do with the proposed elimination, Dr. Gilles, of a relatively small program, but one that I know relatively well, the Federal-State Marketing Improvement Program.

First let me point out the amount of money that we are spending to expand foreign markets. The total is roughly $6.5 billion if you include not only direct grants but the loans as well. I think it is good that we are attempting to expand foreign sales, because those export markets are critical for us.

Now contrast the billions of dollars that we spend on foreign markets with the relatively small amount—$970,000—that we spend under FSMIP to develop our domestic markets.

If you listen to practically every politician today, from the President on down, you hear them say that we need to diversify our rural economy, to get less income from our price support programs and more from the marketplace, and to promote new crops or new uses of traditional commodities. Those are exactly the types of activities that FSMIP has been used for.

Moreover, FSMIP is a well-structured program. It requires participation from State and private sources in the form of matching funds. In addition, project applications are coordinated by each State's department of agriculture.

For all these reasons, I think the proposed elimination of funding is inappropriate.

As the Governor of Nebraska I had to review budgets and I know it is the little programs that sometimes seem like easy targets for elimination. However, I would only suggest, Dr. Gilles, that it would be far more appropriate to pull a similar amount of money from our export programs, especially since in some cases we have not been using all of those funds.

Given the fact that we currently import 21 billion dollars' worth of commodities annually, and that our own domestic market is a stable but vibrant one, I feel very strongly that it is a serious mistake for us to focus so much of our attention on foreign markets to the near exclusion of the domestic marketplace.

FSMIP is a good program that has a local focus and requires, as I mentioned, financial participation from State and private sources. It is spread throughout the United States and I am interested, in view of what I have said, in hearing how you defend the proposed elimination of this program.

Mr. **Boyle**. I appreciate your remarks complimenting the positive aspects of the program. I also appreciate your understanding of the difficult budgetary decisions that have to be made; the type of decisions that you made as a former Governor of your State.

This program has about a 30-year history, Senator. It was initially designed to encourage State departments of agriculture to create, within each of their jurisdictions, a marketing subset within the departments.

In effect, it was designed to create an agricultural marketing service within each of the 50 jurisdictions so that producers in all the States would not only have the benefit of some Federal support but would have the expertise and the support from a State marketing arm.

In that regard, the program has been extremely successful. I believe the vast majority, if not all of our States, have a marketing component within their departments of agriculture.

In more recent years the focus of the program has shifted to the matching grants area as you cited in your remarks.

Those programs are worthwhile. However, we believe that in this time of difficult budgetary decisions, private industry, as well as the State departments of agriculture and their marketing subsets, are in a good position to continue the programs that are of particular priority in local jurisdictions; thereby allowing us to make some of the cost savings that we must face here at the Federal level.

Senator **Kerrey**. Mr. Boyle, you could make that same argument about the Export Enhancement Program, the Targeted Assistance Program, and so on. You could say we have recaptured our foreign market share, we got the job done, so let us stop promoting exports. Let the private sector come in and do it all.

I feel strong enough about this thing that my position is that we ought to allocate a certain percentage of our foreign market development funds for the development of domestic markets. I appreciate what you are saying. For example, I could make the same case, if I had to make the budget reduction, to end the program.

But I am saying that, in fact, the program is working. And I would actually encourage the administration to go in the opposite direction and try to coordinate this particular program with efforts to promote basic and applied research through NSF; to try to get some real targeting and coordination at the local level that enables us, in fact, to add value and achieve the diversification that is necessary, without getting us in the business of being bankers, without getting us into the business of trying to assess risk.

I appreciate the logic of the reduction, but I believe it is a serious mistake, especially in view of the President's words, and my own words, for we all talk about the development of domestic markets and diversification and all that sort of thing. And this program reduction, I think, will make that goal more difficult.

Senator **Burdick**. Senator Fowler.

### AGRICULTURAL CHEMICALS

Senator **Fowler**. Thank you, Mr. Chairman.

Gentlemen, let me ask some questions from ignorance, and help me. Who is it in the Government that has the responsibility to ensure that agricultural chemicals certified as cancer-causing, banned in this country, shipped abroad, do not come back on plants and vegetables imported into the United States?

Dr. GILLES. Senator, I believe the responsibility for that type of activity is statutorily directed to the Food and Drug Administration.

They are concerned with the residues on food products.

Senator FOWLER. So in your Pest and Disease Exclusion Program, that is totally separate? You do not look for residues at the same time you are checking those vegetables for disease?

Dr. GILLES. Not in fruits and vegetables, but we do within the area of the red meats and poultry. There, we are concerned with chemical residues. But, with respect to fruits and vegetables, those types of activities are the statutory responsibility of the Food and Drug Administration.

Senator FOWLER. Should it be?

Dr. GILLES. That is an interesting question. In fact, there are some people who say quite seriously, perhaps there should be an overall coordinator program so that all food products are handled in one administration or under one agency, rather than several agencies.

Contrary-wise, I think the current system works well, in the sense that the Environmental Protection Agency establishes standards on the basis of their toxicological studies, and the Food and Drug Administration uses those standards and procedures to test materials to make sure that the standards are upheld.

And by the same token, within the area of our responsibility in meat and poultry products, we, likewise, apply those similar tests to make sure that the residue levels are sufficiently low to be acceptable.

### AGRICULTURAL QUARANTINE INSPECTION

Senator FOWLER. Well, I do not know, I am thinking out loud, I do not know how well it works.

I remember reading somewhere, I just cannot document it, but somewhere last year, apparently uncontested that our Government only tested two, two, not two boatloads, but two bananas in all of 1987 for banned chemical residues imported into the United States.

It says here that you intercepted 1.4 million pieces of unauthorized plant material last year; a 62-percent increase over the last decade.

Where do you intercept those? Is this at the airports?

Dr. GILLES. Yes; that is in the phytosanitary area.

Senator FOWLER. That is in the what?

Dr. GILLES. The phytosanitary area.

Senator FOWLER. What is the "fidosanitary"area? Is that the doghouse? [Laughter.]

Dr. GILLES. No; the prefix is phyto.

Senator FOWLER. Let us ban acronyms and tell me what that means in plain——

Dr. GILLES. I would like to ask Dr. Glosser, the head of APHIS, to respond to that.

Dr. GLOSSER. Phytosanitary certificates are official documents from the exporting country citing that these products meet the importing country's requirements. We use those both for export and import. We issue phytosanitary certificates and health certificates for plant material.

The 1.4 million interceptions did occur in baggage inspection: handbags, briefcases, and in some instances it was in cargo. So it is broader than just the international tourist. But, generally, the majority of these intercepted materials are ordinarily introduced into the United States because the traveler did not recognize the plant health requirements, and animal health, the meat products.

Senator FOWLER. And you say it is usually individuals coming in?

Dr. GLOSSER. Yes, sir; there are occasions where there has been an organized system to circumvent the importation requirements, but those are fortunately few and far between. The majority of these are unwittingly introduced for lack of knowledge.

Senator FOWLER. In your experience, is there any compelling reason why we segregate our inspection practices on fruits and vegetables from plants and pests?

Dr. GLOSSER. I would have to defer that over time and tradition with the various departments involved in this, as Dr. Gilles pointed out, the ultimate authority under the Food, Drug and Cosmetic Act is the responsibility of FDA.

Senator FOWLER. No; that is not what I asked you. I know about the tradition and the bureaucratic lines. What I asked you was, based on your experience now, inspections, with one public goal I assume, and that is to say that the food or the plants entering in are not harmful to American products and personalities, is there any compelling reason that I do not out for that system other than tradition?

Dr. GLOSSER. Well, it is based on statute, Senator. The plant products, the animal products are food. That is under the statutes of the Food and Drug Administration.

The health status of plants and animals are under USDA jurisdiction with a different set of statutes entirely.

Obviously they can be coordinated, as we are in working relationships now, or they can be consolidated. It would require extensive planning and reallocation of resources to do that.

Senator FOWLER. Mr. Chairman, I am sure I have used more than my time.

Thank you.

Senator BURDICK. Senator Harkin.

## PSEUDORABIES PROGRAM

Senator HARKIN. Thank you, Mr. Chairman.

I know that the chairman brought it up earlier, but I would like to further discuss the pseudorabies program with APHIS.

Pseudorabies Eradication Program funding is targeted for a cut in the APHIS budget from an estimated $2.7 million for fiscal year 1989 to $2.4 million for fiscal year 1990. The actual level for fiscal year 1988 was also $2.4 million.

Last year the National Pork Producers Council indicated that it needed $2.8 million, plus an allowance for administrative expenses, and the final amount appropriated was $2.7 million, including administrative expenses.

This committee will be receiving testimony from the Pork Producers next week, but it is my understanding that the need for pseudorabies funding will increase for fiscal year 1990 as the pork industry moves ahead on its 10-year Pseudorabies Eradication Program.

Could you please provide for the record APHIS's analysis of what can be accomplished with the funding recommended in the fiscal year 1990 budget? And what justification can you provide for the proposed cut in funding for the pseudorabies program?

Dr. GLOSSER. Senator, we will supply you with an analysis and rationale for that decision.

[The information follows:]

The national pseudorabies eradication program began January 1, 1989. APHIS will coordinate the national program in cooperation with the States and the National Pork Producers Council. With the funding recommended in the fiscal year 1990 USDA budget, we plan to expand the gains made in fiscal year 1989 as part of the evolving national effort. In terms of specific activities planned for fiscal year 1990, APHIS will:

—assist virtually all States in pseudorabies virus control or eradication activities;
—improve and provide limited funding for the national surveillance program;
—conduct laboratory tests in support of State programs;
—disseminate public information in conjunction with the States and industry;
—in limited situations, purchase vaccines for use in herd cleanup;
—complete development and implementation of a national reporting system to monitor and evaluate State program progress;
—conduct one training course for diagnosticians and epidemiologists;
—continue to sponsor a veterinary student at the University of Minnesota in a Master's degree program in swine diseases with specialty in pseudorabies; and
—provide limited funds through a continuing grant to the Livestock Conservation Institute to support activities related to State eradication and control programs.

APHIS will continue to provide direct support for local programs to control or eradicate pseudorabies, but at moderately reduced levels. The Agency will continue to provide national program coordination, national surveillance support, technical advice, regulatory assistance, public information, and recordkeeping at the current level.

The State and industry have gained experience through pilot projects and APHIS support for local activities to control or eradicate pseudorabies. Consequently, federal support can be reduced somewhat and the States and producers can assume an increased role.

Senator HARKIN. Do you have anything off the cuff here?

Dr. GLOSSER. We are certainly aware of the 10-year projections and the costs. Based on the difficulties in proposing budgets, the decision was to go forth with the $2.4 million, to support the Federal coordinating role. We recognize that more funds had been projected.

Senator HARKIN. Do you feel we are making progress in the Pseudorabies Eradication Program?

Dr. GLOSSER. Yes, sir, I do.

Senator HARKIN. I do, too. But I will say the same thing I said several years ago: It seems like the administration keeps bringing this program up when trying to cut this budget—in spite of the fact that once you get toward the end of an eradication program, the cost per unit goes up.

I think there are some individuals who assume that as long as you have gotten the incidences down, well, you can cut the budget then. But the opposite is in fact the truth. It costs more to wipe out the last case than it did to get the initial ones.

Dr. GLOSSER. Indeed, it does.

Senator HARKIN. So that is why I am this concerned about your cutting the budget at a time when we are approaching, really, an eradication of pseudorabies.

Dr. GLOSSER. We are certainly in the up swing of a national program, driven by the industry, which we totally support. And it is going to be resource-intensive, no question, as the 10-year plan points out.

Senator HARKIN. Well, I look forward. And how soon can you get me this justification? Because, as I said, we are going to have the pork producers here next week.

Dr. GLOSSER. We will respond to that expeditiously, within the next day or two.

### SCRAPIE ERADICATION PROGRAM

Senator HARKIN. I would appreciate that. Thank you.

Second, another eradication program, scrapie. In fact, I am introducing a bill today in the Senate to ensure continuation of the Scrapie Eradication Program. There has been a marked increase in the incidence of the disease in sheep and goat flocks in the past few years.

As you know, in my State of Iowa, we have a definite problem with scrapie. My colleague, Senator Grassley and I are very familiar with it.

For example, here are some figures: The number of identified scrapie outbreaks has increased from 11 flocks in 1980 to more than 50 flocks in 1988. As the number of identified outbreaks has increased, the amount of money spent on indemnities has gone down.

In 1986, for example, with 37 flocks identified as infected, APHIS paid indemnities of $498,800. In 1988, with over 50 scrapie flocks, APHIS paid indemnities of only $224,800. In 1982, APHIS paid indemnities of $1.3 million on 18 infected flocks.

So these figures I think draw into question the commitment by APHIS to the Scrapie Eradication Program.

My question is, what is the budget and expected level of spending within USDA and APHIS on the Scrapie Eradication Program for fiscal year 1989 and 1990?

Dr. GLOSSER. For fiscal years 1989 and 1990, the planned level of funding for scrapie is $845,000 per year.

If I may comment on the bigger problem of scrapie, the disease scrapie. And I wince to use the word again, but I will because I think it is salient here. Tradition has cast a program within APHIS in which we, 25 years ago, were on the expected edge and hoped for science to provide us the diagnostic criteria to evaluate a case.

And we cast the program, rightly or wrongly, as scrapie eradication. I would be less than honest to say before this panel today that we do not have the technology before us, gentlemen, to eradicate scrapie.

That does not absolve our responsibility to try to respond and check the flow and the spread of this disease. The variance in figures, Senator, reflects different policy, different approaches in which, back in 1982–83, we were doing whole flock elimination.

Senator HARKIN. Depopulation?

Dr. GLOSSER. Yes, sir.

Now, based on the experts and some of the industry concerns, we have switched to breed line elimination and left remaining animals in the flock since the exposure potential was not a factor; this is a biologically, epidemiologically sound procedure. In doing that, it is suggested that more flock owners are coming forth with their flocks that are afflicted by this condition. So that we are having an increase in the number of cases.

Whether this is an epidemic or not, it remains to be seen.

This is a disease that has a 4.5-year incubation period. We simply do not have the technology, the knowledge base for an eradication program. We will work with the scientists and with the industry to try to formulate the best approach to deal with this problem.

There is no easy answer to it.

## SCRAPIE RESEARCH

Senator HARKIN. Could you tell me what research is ongoing, and if you do not know right now, can you provide that to me, what research is going on to really get a better understanding of scrapie, early identification? And, as I understand it now, the identification of scrapie is a long, involved process.

Dr. GLOSSER. I can give you three snapshots of the research. The National Institutes of Health at Rocky Mountain Laboratory in Montana, the ARS facility in Pullman, WA, at Washington State University, and in the private sector, in academia, the University of Wisconsin. There may be others, Senator. But we will check with our colleagues in ARS and give you that.

Senator HARKIN. Yes; I would like to get a handle on all the research going on, on scrapie as a disease, its early identification, that type of thing.

Dr. GLOSSER. We certainly need it, sir.

[The information follows:]

### DESCRIPTIONS OF CURRENT SCRAPIE RESEARCH PROJECTS

Department of Neurology, University of California, attempt to purify and characterize infectious particle responsible for causing scrapie, study its progress, and characterize it biochemically; National Institute of Neurological and Communicative Disorder and Stroke, analysis of cerebro-spinal fluids using state of the art molecular sequencing technology in attempting to develop a diagnostic test for scrapie; Institutes of Basic Research and Development Disorders, rapid processing of brain matter using monoclonal antibodies and Western blot analysis to develop diagnostic test for scrapie. Also, use electron microscopy to detect scrapie associated fibriles; International Sheep and Goat Institute, Utah State University, study scrapie to determine efficacy of embryo transfer in obtaining scrapie free progeny, and determine vertical transmission of scrapie at the time of fertilization; Department of Veterinary Science, University of Wisconsin, evaluation of immunoblotting for PRION protein as a diagnostic test for scrapie; Animal Disease Research, ARS-USDA, Washington State University, attempting to develop test for scrapie using state of the art molecular sequencing technology; and Veterans Administration, Nourse Rogers Memorial Veteran's Hospital, analysis of cerebro-spinal fluid using state of the art molecular sequencing technology in attempting to develop a diagnostic test for scrapie.

## MEATPACKER CONCENTRATION

Senator **Harkin**. One last one. What is the USDA doing to evaluate the market structure of the meat industry? There is a lot of concern in Iowa about packer concentration. I am hearing from farmers that they are only getting one bid for their animals now. It comes from maybe one packer.

They do not feel that there is enough competition out there that they could really get a bid price. My question is what studies, if any, have been done by USDA on packer concentration in the meat industry, and its effect on farm income to the farmers?

Mr. **Boyle**. Senator, I am not aware of any study within the Agricultural Marketing Service that has been undertaken in regards to the concentration within the meat industry.

I know one of our sister agencies, the Packers and Stockyards Administration, not before the panel today, has followed that development closely. They may have some formal review underway. I am not aware that they do, however, if they do, we will provide that to you.

Also, I will be happy to provide any other information on whatever the Department is doing in that regard. But, within AMS, I am not aware of anything.

Senator **Harkin**. Would that not come under your jurisdiction to find out how the marketing system is working?

Mr. **Boyle**. Arguably it could. We have not pursued it largely because of the interest of the Packers and Stockyards Administration in that area. We do not want to duplicate efforts in that regard.

Why not let me provide you what information we have, and if it is lacking, we can initiate some further review.

Senator **Harkin**. I am concerned from the standpoint of farmers getting a one-bid price, take it or leave it, this is it, and not really getting good, competitive bids on their animals.

And any information you have on that, I would like to know. So I will look forward to getting that information from you.

[The information follows:]

### Meatpacker Concentration

USDA's Packers and Stockyards Administration (P&SA) continually evaluates the market structure of the meat packing industry and testimony on this subject was provided to the House Subcommittee on Monopolies and Commercial Law, Committee on the Judiciary, May 11, 1988.

Several investigative studies have been made by P&SA over the past few years dealing with meatpacker procurement as follows: Geographic Markets and Prices for Fed Steers and Heifers, 1982; Grade and Yield Marketing of Hogs, 1984; Northwest Iowa Fed Cattle-Packer Procurement Study, 1982; Texas/Oklahoma Slaughter Cow Procurement, 1983; Northwest Slaughter Cow Procurement, 1983; Hy-Plains Steer and Heifer Procurement, 1987; Slaughter Lamb Marketing, 1987. In addition, there are current investigations underway of sheep and lamb and veal calf procurement practices of slaughtering packers.

Studies addressing the impact of concentration have been undertaken, mainly by researchers at Land Grant Institutions. Certain of this work has shown an inverse relationship between packer concentration and livestock prices. However, recent surveys of livestock feeders and producers and their contacts with the Department state that they have not arrived at a consensus with respect to the need for Federal Government intervention to stop or limit packer concentration.

P&SA's monitoring programs and procedures directed toward market performance and anticompetitive trade practices are continuing and to date there has been no documented evidence of concentration in the packing industry having a negative impact on competition. The supply situation, both slaughter and feeder livestock, coupled with excess packer capacity will likely mask any measurable negative impact on the market resulting from concentration in the near future especially in the case of cattle.

Mr. **Boyle**. We, too, are concerned about that within AMS. We purchase beef products for use in the School Lunch Program, and other Federal feeding programs, pursuant to a competitive bid process. Fortunately, the number of bidders over the last few years has remained rather constant and extremely competitive.

Perhaps figures of our experience in that program might be of interest to you as well. We would be happy to provide that.

Senator **Harkin**. That is a big purchase.

Mr. **Boyle**. We spend about $100 million a year.

Senator **Harkin**. That is a lot. When you are on the other end and you are a single farmer out in Iowa or Nebraska, or some place like that, and you have just got one buyer coming around, it is pretty hard to get other bids.

So if you could supply that information.

Mr. **Boyle**. I would be happy to.

Senator **Harkin**. Thank you, Mr. Chairman.

[The information follows:]

### CONTRACTORS PARTICIPATING IN BEEF PURCHASE PROGRAMS

Listed below are the number of contractors participating in the Agricultural Marketing Service's main beef purchase programs over the past five school years (July 2–June 30). For comparison purposes, also listed are the number of ground pork program participants. Although there has been a slight reduction in the number of contractors, it is significant to note that bidding on these on-going commodity purchase programs is very competitive.

| Commodity | School years | | | | |
|---|---|---|---|---|---|
| | 1988–89 | 1987–88 | 1986–87 | 1985–86 | 1983–84 |
| Frozen bulk ground beef | 19 | 23 | 26 | 29 | 30 |
| Frozen ground beef patties | 8 | 10 | 14 | 11 | 13 |
| Frozen ground pork | 11 | 6 | 8 | 8 | (1) |

[1] No purchase program that year.

### MARKETING ORDERS

Senator **Burdick**. Senator Kasten.

Senator **Kasten**. Thank you. I am told that you intend to adjourn this hearing. Is that right?

Senator **Burdick**. If we do not finish in the next ten or 15 minutes.

Senator **Kasten**. Well, fine. Thank you very much.

On March 8 Secretary Yeutter was here before this subcommittee and at that time he and I agreed that the milk marketing order system needed to be looked into. The system continues to operate as if nothing has changed since 1937, since all of us in this room are aware.

Last year the Department of Agriculture did a study at my request of the milk marketing order system. Increased class I differentials mandated by the Food Security Act of 1985 have cost the Government money, increased the cost of milk to the consumers, and not promoted economic efficiency in the market according to that report. So, I think that we do need to work toward a market orientation in agriculture which does not distort dairy markets.

Mr. Boyle, has the USDA backed away from its conclusions of the August 1988 report which I just referred to on Federal milk marketing orders? Where do we stand right now in terms of some kind of efforts toward reform?

Mr. BOYLE. I do not believe the Department has backed away from the conclusions in that study. It was conducted by another agency within USDA, the Economic Research Service, I believe, Senator Kasten. We also have worked with the General Accounting Office on a similar study of the milk marketing order system that was released about 1 year ago, as well, which made some recommendations for changes.

The marketing order system, while it has remained constant in terms of its statutory underpinnings, has evolved rather dramatically over the years. We now have half the number of milk marketing orders in the country than we had about 25 years ago. The changes in the marketing orders throughout the 50-year history of that program have traditionally been consistent with the statute and have originated from the producers and the handlers who rely upon those programs.

Within AMS, when discharging our responsibility for overseeing them and enforcing agreements and orders, we look toward the producers and the handlers for direction in terms of proposals to change the orders, to modify them, or to amend them. We are not aware of significant proposals that were contained, for example, in the ERS study or the GAO study that have been endorsed and embraced by constituent groups around the country and formally presented to the Department.

In the event that we do receive such proposals, we would be happy to review them in terms of the underlying statute and, if appropriate, go forward with the formal rulemaking process.

Senator KASTEN. Well, there was a specific petition. Why did the USDA deny the petition of the Midwestern producer groups to roll back the increases in class I differentials?

Mr. BOYLE. At the time that we received that, Senator Kasten, we were in the midst of the drought throughout many dairy-producing parts of our country. The concerns of dairy farmers about sustaining their income through that excessively dry period were understandable. Given the situation at that point in time, the Department did not feel it was an appropriate period for us to propose a reduction in the amount of income to dairy producers in addition to the reduction that they were already confronting as a result of the drought.

Similarly, part of the drought package that the Congress enacted last year in the midst of that crisis provided an increase in dairy price supports which begins, I believe, this month and runs through April, May, and June, the most productive period—the so-called flush period—for the dairy producers in the country. So, the combination of those two factors prompted the Department to deny that petition.

Senator KASTEN. Would the USDA be willing to look at this issue in the future, especially I should say in the light of this conversation we are having and also in the light of the seeming interest by the new Secretary of Agriculture in his statement before this committee?

Senator **Burdick**. Senator Kasten, I was assuming that your question was going to be short because Senator Grassley was next.

Senator **Kasten**. I did not realize that.

Senator **Burdick**. We will come back after lunch. You figure it out between you two.

Senator **Kasten**. Mr. Chairman, I am finished right now. The answer to my question was yes, we will.

Mr. **Boyle**. Yes; we will, consistent with the Secretary's previous statement.

Senator **Kasten**. Mr. Boyle, I thank you, and I apologize to the Senator from Iowa. I thought that you had already spoken, and I will put the remainder of my questions in the record.

Senator **Grassley**. Mr. Chairman, I wondered would it be appropriate if—even if you had to go, if I would just continue—I would be done by 5 after.

Senator **Burdick**. Well, I do not have to go. The leader of the Senate wants us there.

Senator **Grassley**. In other words, he is going to miss Grassley if he is not there?

Senator **Burdick**. Oh, absolutely.

Senator **Grassley**. Should I start out, then?

Senator **Burdick**. Well, let us use the time.

### IMPORTATION OF SWINE SEMEN

Senator **Grassley**. Dr. Glosser, I wanted to bring up with you the involvement of APHIS regarding the importation of swine semen from China. Last year I worked with pork producers from my State and the Agricultural Research Service to set up a joint research program involving Chinese pigs.

The Agricultural Research Service, working with cooperators in my State and Illinois, is planning to spend approximately $1.2 to $1.5 million to begin research into the effects of infusing Chinese hogs into the American pork system.

And now, despite the effort to determine the genetic and health benefits and disadvantages, APHIS appears to have decided to move ahead with the relaxation of import regulations. So, I have several concerns that I would like to have you respond to.

My first concern is why APHIS has initiated a rulemaking process relaxing the importation standards while the Agricultural Research Service is simultaneously developing a thorough research program.

Dr. **Glosser**. Senator, I would be happy to respond to that.

There is some confusion with the term relaxation. In fact, the standards are identical to the two sets of introduction of germplasm be it semen or the live pigs. The pigs are at our quarantine facility in Florida at the present time. The companion boars to that shipment happen to be in the same Chinese facility and have undergone the same screening requirements, the same level of quarantine and biosecurity. We are proposing the same standards to bring in the semen from pigs that will remain in China. The same health risks are being applied. So, there is no relaxation, sir, or no difference.

Senator **Grassley**. Well, let me pursue that this way. Who is going to benefit from these proposed rule changes? The regulations cite one company that will be importing semen. Do you have any figures regarding the benefits of this rule for this company or the pork industry in general?

Dr. **Glosser**. A particular company owns the particular boars that are in question. We did not do an economic analysis as to the impact on the pork industry of bringing in the semen from these boars.

I would say that with respect to the introduction of the germplasm, the overall industry will benefit. These swine are presently at the Harry S. Truman Import Center. We did not do an economic assessment as to the benefits that that particular company would reap.

Senator **Grassley**. Was anyone other than this company consulted?

Dr. **Glosser**. To my knowledge, they were consulted on the information that we were promulgating for the regulation and before publishing it in the Federal Register.

Senator **Grassley**. I understand the National Pork Producers are drafting a statement of opposition to the relaxed standards, and I suppose you would dispute whether or not they are relaxed standards. But why did APHIS not consult with this organization before issuing the rules? And I do not imply that is anything other than consultation. But, it seems to me like agencies of Government generally seek, wherever they can, at least views to be considered, not necessarily that these views will be included in the final rule.

Do you have a reason?

Dr. **Glosser**. I cannot give you a hard and fast reason of formal consultation with them, Senator. Certainly in the dilemma that we were faced with when the two different populations were in the same quarantine facility, individuals from the industry involved with the ARS project knew of our dilemma and the need to make sure that no breach of quarantine was allowed that would place the live importation into Harry S. Truman in jeopardy.

As far as formal consultation relative to the semen import, we did not.

### COMMENT PERIOD

Senator **Grassley**. Now, there is a procedural concern I have about the shortened comment period. Researchers and pork producers I have spoken with have expressed serious concerns about the health implication of this move. Yet, in spite of these concerns, it appears that your organization is trying to race through these changes without time for comment.

I would like to have you respond to why the comment period was shortened.

Dr. **Glosser**. It was the same period of comment that was used for the companion animals that are in Harry S. Truman. We applied the same set of standards to both groups. In fact, the conditions of biosecurity in quarantine were equal for both populations.

Senator **Grassley**. Well, we are not talking about the importation. We are talking about the time period involving comment on the regulation.

Dr. **Glosser**. The comment period on the regulation is also the same. Both situations used the same length of time, which is a 15-day period for comments.

Senator **Grassley**. So, you are saying there is nothing unusual about this comment period over comment periods on any other regulations you had an interest in?

Dr. **Glosser**. The comment period varies depending on the issue. We have been negotiating and working with ARS and the swine industry as to the health conditions that would be necessary to be met for over 10 years on this, Senator, from China.

Senator **Grassley**. If collecting semen before the summer begins so as to limit health problems is a concern of APHIS and maybe I ought to ask is that a concern?

Dr. **Glosser**. Absolutely it is.

Senator **Grassley**. That seems to indicate a lack of confidence in the current health inspection system available in China. Is that the case?

Dr. **Glosser**. No, sir; it is the cyclic nature of many of the viruses and contagions that we have to deal with. Certainly to minimize any risk or to virtually eliminate risk, this collection should be done before the vector season. In this instance, it is a disease called Japanese encephalitis.

Senator **Grassley**. I would like to ask you to first extend the comment period on this proposal to allow more input from those who could be affected, both producer and the researcher. Can you do that?

Dr. **Glosser**. We certainly can, sir.

Senator **Grassley**. I want to tell you that I am concerned about the conflicting tracks being pursued by APHIS and ARS and so, within the next week in addition to forwarding additional comments to you about these rules, I want to ask the Department to review these actions and settle what appears to be an uncertainty of purpose.

And I think you have been open with us. I am not sure on that one point about your justification of these rules not being a relaxation that I would agree with that. But, I am willing to pursue that, and I think you are open and honest about it. And maybe it is just the case of my further understanding.

But I do not want you to leave this meeting thinking that I am completely satisfied. But I do appreciate the fact that you have extended time for other consideration of this. And I guess—I look forward to our continuing dialog on that issue.

### SCRAPIE

One last area that is not going to take very long because Senator Harkin did a very good job of handling it, but I do have a question in regard to scrapies as it deals with legislation that Congressman Jim Leach from Iowa has proposed for additional funds for scrapie eradication. Do you have an assessment of that legislation?

Dr. GLOSSER. We have not at this time prepared an official response. We are aware of the legislation.

My first concern is the title, the eradication, because we simply do not have the techniques today, even though we have perpetuated that term.

Senator GRASSLEY. But eradication does not mean you pass a bill and you have the problem solved.

Dr. GLOSSER. That is absolutely correct.

Senator GRASSLEY. You can talk about eradication as a process and a program leading to eradication. I am not sure that I can tell you exactly how far, how fast Congressman Leach's legislation would push that, and maybe you have analyzed it as being too demanding. I do not know. Is that what you are telling me?

Dr. GLOSSER. No, sir; we have not made specific analysis of the dollars.

I will say this, and it is not in my area of expertise, but the $2 million that I recall that is intended for research probably is not sufficient for that. Any eradication program, Senator, must have the diagnostic tools and the classification criteria to be able to separate populations into those that are exposed and those that are not. And frankly, we do not have the diagnostic tool or the criteria available to us. That is the quandary we are faced with as an agency administering this program.

Senator GRASSLEY. Well, what about maybe from this standpoint? Is this a problem that APHIS is willing and able to solve without the need for additional legislation or is this a case that in order for you to do anything, there has got to be a change in legislation? And I guess then you get down to the bottom line. Would you support changes in the current program?

Dr. GLOSSER. Obviously, we would encourage changes in the current program. We would have to. And I will use two examples we made earlier today, the Russian wheat aphid and also in the pseudorabies program.

We need to have some consensus and some direction from the industry. The scrapie program is replete with opposing views within the industry as to how to address this problem, and we need the consensus, the leadership, the direction from not only the scientific community, but from the industry itself as to whether we have a successful program to address this problem.

### BIOLOGICAL CONTROL

Senator GRASSLEY. Well, you will not believe this, but I have got a compliment for you, and that is in regard to your announcement about the Biological Control Service Institute. I want to thank you for that announcement. You indicated in your testimony how important biological controls are—at least they can play a very important role in reducing agriculture's use of pesticides.

But along this line I said I had one last question, and this is it, I promise you. I would just like to have you give just a little bit of detail about this institute and the service's plans in this area.

Dr. GLOSSER. Thank you, Senator, for the opportunity because we put this at a very high priority within the Department and within APHIS.

This is a service-related, service-driven series of events. It is not bricks and mortar. It is not a reference center. It is not a library, but we will serve as the focal point for the applied methods development and release of various predators, pests, and assist, which is our role, in technical assistance to States or individuals of any type of biocontrol strategy to minimize the use of pesticides.

We feel that there has to be that focal point within the Department, and it is a logical one since we rely so heavily on these intervention strategies. We hope that we will be able to maintain the colonies and rear them so that if there is a need in a specific area that not only the technology, but the population or a subunit of that population could be supplied to address that.

### SUBMITTED QUESTIONS

Senator **Grassley**. Thank you.

This morning the Senate is conducting a special bicentennial celebration. Therefore, the subcommittee will end the hearing early. Further questions by Senators Burdick, Kerrey, McClure, Cochran, Hatfield, Specter, Harkin, and Kasten will be submitted in writing and we would ask for your timely responses.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

# Animal and Plant Health Inspection Service

## Questions Submitted by Senator Burdick

### BIOCONTROL

Question: You also mention that you will establish the National Institute for Biological Control Implementation. How much of the budget increase will be to establish and run this institute?

Answer: We have budgeted $500,000 to establish the institute in Fiscal Year (FY) 1990.

### SWINE BRUCELLOSIS

Question: Has APHIS outlined its own program for swine brucellosis? If so, what is the duration and annual cost of the program?

Answer: APHIS recently developed a framework for an accelerated swine brucellosis eradication program in response to a request from the pork producing industry. Under that proposal, 3 years would be required to achieve eradication, with the following annual costs:

| | |
|---|---|
| Year one | $4,284,000 |
| Year two | $2,886,000 |
| Year three | $2,259,000 |
| Total | $9,429,000 |

The plan is intended to stimulate further discussion among concerned industry and public agencies, and does not represent official USDA policy.

### BRUCELLOSIS

Question: I note that despite improvements in the brucellosis eradication program, Puerto Rico moved from class free status to class A status. What is the reason for that?

Answer: Through slaughter surveillance and traceback investigation, three infected beef herds were discovered. Because the investigation showed the disease was not recently imported from outside the island, coupled with a decision on the part of the herd owners to salvage their herds rather than depopulate, it was necessary for APHIS to lower the Commonwealth's status from Class Free to Class A.

Question: Dr. Glosser, I am very concerned about some of the information that you have put out about the brucellosis program. In your 1989 explanatory notes, when you requested the $10 million reduction in the program, it is stated that "The objective of the program, through increased State and industry involvement, is to bring all States to Class A status or better by the end of FY 1990."

Then, in your 1990 explanatory notes, you state that "The program continued progress toward the goal of having all states in Class A or better by the end of FY 1990."

Now, in a report that you did for the National Cattlemen's Association, you state that if current funding--$55.8 million--were maintained, all states could reach Class Free status by the year 2000. And, even if the $10 million were added back and the program were funded at $65.6 million per year, all states would reach class free status only by the year 1996.

Furthermore, you state that we have to spend $90 million for three years in order for all states to reach Class Free status by the year 1993.

Your report to the Cattlemen indicates that it is impossible to reach Class Free status by 1990. So why do your budget justifications still state that 1990 is the goal and make it sound as if you are reaching it?

Answer: The goal of our program is not for all States to reach Class Free status by the end of FY 1990, but rather to have them achieve Class A or better. At this time, there are only seven States whose classification is below Class A. With continued emphasis on developing effective eradication plans and on reducing disease incidence in those States, we believe that the goal of having all States in Class A status or better by the end of FY 1990 is attainable.

Question: What can we expect to accomplish with the amount of money that you are requesting?

Answer: The brucellosis program operating plan for FY 1990 will give priority to reducing the incidence of brucellosis in high incidence States while providing for basic program needs. Most importantly, the ability to detect re-introduced infection at the earliest opportunity in the other States will be provided. We believe this balanced approach is necessary to maintain a viable national program, and to prevent program reversals that could jeopardize the status of the free States and those approaching that status.

The continued reduction in the disease incidence in the high-incidence States will decrease program costs for testing and retesting herds. The savings realized will enable us to allocate more funds into such areas as whole herd depopulation and increased epidemiology. We also intend to continue funding for the Particle Concentration Fluorescence Immuno-assay testing system, a highly automated procedure which allows a large number of tests to be performed each day. This allows the epidemiologist to rapidly provide information on the status of animals to an owner. In such States as Florida, the rapid turnaround time has enabled program managers to deal more efficiently with infected herds.

## ANIMAL DAMAGE CONTROL

Question: You propose an increase of $4,197,000 for animal damage control activities. Your justifications do not indicate that any decreases are proposed in that program. Will all of the activities provided for in the 1989 appropriations act and reports be continued in 1990?

Answer: Yes. We will continue all activities at the current level unless directed otherwise.

Question: What plans do you have for research on control methods and tools of the future?

Answer: The Denver Wildlife Research Center has proposed research on control tools that range broadly from development of new pesticides to the use of biotechnology to the development of highly selective imunosterilants for selected vertebrate pests. A few examples of proposed control tool research are: effective roost toxicants; bird repellents such as dimethyl anthranilate; habitat modification to reduce blackbird damage to sunflowers; snares that break away from non-target animals; single lethal dose baits for predator control; electronic applications to the repellency of beavers and for improved coyote predation; and, the development of immunosterilants for coyote control.

Question: Please provide a breakdown, by state and by program, of Animal Damage Control (ADC) monies in 1989 as well as the increase in the 1990 budget.

Answer: The information follows:

### ANIMAL DAMAGE CONTROL
### GEOGRAPHIC BREAKDOWN OF OBLIGATIONS
### ESTIMATED 1989

| STATE | FY 1989 |
|---|---:|
| Alabama | 47,000 |
| Alaska | 57,000 |
| Arizona | 385,000 |
| Arkansas | 220,000 |
| California | 1,233,000 |
| Colorado | 5,591,000 |
| Connecticut | 19,000 |
| Delaware | 6,000 |
| Florida | 302,000 |
| Georgia | 72,000 |
| Hawaii | 264,000 |
| Idaho | 1,072,000 |
| Illinois | 112,000 |
| Indiana | 62,000 |
| Iowa | 3,000 |
| Kansas | 43,000 |
| Kentucky | 254,000 |

| State | FY 1989 |
|---|---|
| Louisiana | 251,000 |
| Maine | 70,000 |
| Maryland | 1,757,000 |
| Massachusetts | 19,000 |
| Michigan | 83,000 |
| Minnesota | 606,000 |
| Mississippi | 556,000 |
| Missouri | 54,000 |
| Montana | 868,000 |
| Nebraska | 267,000 |
| Nevada | 617,000 |
| New Hampshire | 98,000 |
| New Jersey | 80,000 |
| New Mexico | 1,016,000 |
| New York | 173,000 |
| North Carolina | 76,000 |
| North Dakota | 627,000 |
| Ohio | 359,000 |
| Oklahoma | 619,000 |
| Oregon | 862,000 |
| Pennsylvania | 102,000 |
| Rhode Island | 16,000 |
| South Carolina | 61,000 |
| South Dakota | 329,000 |
| Tennessee | 369,000 |
| Texas | 2,146,000 |
| Utah | 1,246,000 |
| Vermont | 77,000 |
| Virginia | 83,000 |
| Washington | 645,000 |
| Washington, DC | 523,000 |
| West Virginia | 52,000 |
| Wisconsin | 284,000 |
| Wyoming | 885,000 |
|  | $25,618,000 |

Of the proposed $4,197,000 increase, $1,021,000 would fund the FY 1990 phase of the upgrade of the Denver Wildlife Research Center and $3,176,000 would cover funding needs in the operational component of the ADC program. Approximately 30 percent of the operational program increase would fund the replenishment of program supplies and the replacement of worn out equipment, approximately 20 percent would fund expanded aerial hunting, and approximately 50 percent would fund net program activity.

Question: Will the additional funds you have requested for 1990 bring the Denver Wildlife Research Center into full compliance with the Environmental Protection Agency's (EPA) Good Laboratory Practice (GLP) Standards? Will it be in compliance with the Animal Welfare Act?

Answer: Yes, with the additional equipment we will purchase and all essential positions filled, we will be in full compliance with EPA's Good Laboratory Practice Standards. In addition, when the construction of the inside animal housing facility is completed and we have consolidated small animal holding, all animals will be housed according to Animal Welfare Act standards. We will also be back to full animal research capabilities.

## PESTICIDE REGISTRATIONS

Question: Please review the current status of pesticide registrations.

Answer: APHIS maintains 7 Federally registered vertebrate pesticides; 21 individual products are registered with the EPA and 25 Special Local Use registrations with States. Of the 7 pesticides, Strychnine and 1080 are currently under EPA Data Call-Ins which require us to generate data to continue existing uses within very specific time frames. The other 5 pesticides, zinc phosphide, DRC-1339, PA-14, sodium cyanide, and gas cartridges, are current with respect to data requirements. However, three have various registration modification actions underway, such as label and formulation changes.

APHIS also has two existing Experimental Use Permits (EUP). One is for 1080 for arctic foxes and the other is for diphacinone for mongeese. Final reports on these experimental uses are due shortly. Also, we have one conditional registration of 1080 for the Livestock Protection Collar pending, and one EUP, Determination of Need, application for CPT being negotiated with EPA. We expect to conclude negotiations with EPA for CPT by mid-April.

Question: Do you have sufficient funds in 1989 and proposed in 1990 to address the needs of the agriculture community for vertebrate pesticides? If not, what amount would be needed to address fully the pesticide registration needs?

Answer: We have sufficient funds to continue current research relating to vertebrate pesticides. To address all of the needs identified by the agricultural community, we would need an additional $3 to $6 million for discovery and expanded use research.

Question: Are you paying registration maintenance fees to EPA? If so, how much? Have your requested a waiver?

Answer: Yes, we will pay approximately $17,850 in registration maintenance fees to EPA in FY 1989. These fees cover 42 State and federally registered products. We have contacted various levels of EPA regarding a waiver and have been repeatedly told that the 1988 Federal Insecticide Fungicide and Rodenticide Act amendments precluded any waivers. Previously, we were exempt from paying registration fees since we were acting in the public interest.

## CPT

Question: Please describe the current status of the research on the blackbird roost toxicant--CPT.

Answer: We requested an EUP from EPA to allow us to conduct studies in a southern location during the winter and a northern location during the summer. In response to a request for determination of need for an EUP, the EPA stated that it would allow a small test in a non-aquatic, southern location. However, an EUP would be required prior to summer tests in a North Central U.S. location. The southern test was conducted during February in Mississippi at a roost with about 400,000 birds. Preliminary results indicate an effective application.

We are working with EPA to develop criteria for selecting potential sites for a late summer trial. We have provided EPA site-selection criteria for the north-central location and are expecting a decision from EPA by mid-April.

Question: Is APHIS fully committed to the full evaluation of CPT as a roost toxicant and to seeing it registered if it continues to look promising?

Answer: Yes, we are committed to the full evaluation of CPT as a roost toxicant. We currently have only one other roost toxicant and it has numerous limitations in how and where it can be used. Evaluation and registration of CPT, should research results look promising, would certainly benefit the ADC program and help protect American agriculture.

Question: Is the current work with EPA focused on testing the efficacy of CPT or on the methodology of testing the use of CPT?

Answer: The objectives of the 1989 field testing program are to develop methodology for evaluating efficacy and potential environmental and nontarget hazards, and to estimate residual properties of a field application of CPT. Development of efficient and reliable field methodology is a prerequisite to a field testing program for accurately assessing efficacy and environmental hazard. If EPA allows field testing after 1989, then the next phase of our program, would be directed at evaluating efficacy.

Question: What is the distinction and what are the ramifications for farmers with blackbird problems?

Answer: Current field trials are designed to evaluate several techniques for assessing the efficiency, reliability and accuracy of determining the effects of a slow-acting avicide such as CPT. The information generated will allow us to make objective choices of field techniques and to justify their use in subsequent field trials with CPT. Ultimately, this approach benefits the farmer whose blackbird problems could be reduced by the registration of a roost toxicant because it increases the ability of APHIS to fully and accurately assess CPT, or any other slow-acting avicide, as a roost toxicant.

## AGRICULTURAL QUARANTINE INSPECTION

Question: I am curious about your plan to implement user fees to cover the costs of Agricultural Quarantine Inspections. You indicate that the user fees will be levied on the direct beneficiaries, but you do not state who the beneficiaries are. Who are they?

Answer: One of the advantages of the user fee, is that it is a charge levied on the direct beneficiary of a particular government service, rather than the general taxpayer. In this case, the government service is agricultural inspection at ports-of-entry and the beneficiaries are agricultural importers, exporters, and international travelers.

Question: You seem to draw a distinction between the users charged and the program beneficiaries. What is the difference?

Answer: We did not intend to draw a distinction between users charged and program beneficiaries; there is no difference. The users charged are the program beneficiaries.

Question: How many beneficiaries are there and what will their average cost be?

Answer: The number of beneficiaries is estimated to be 32 million passengers, and agricultural importers and exporters. The proposed user fee would be based on the cost of performing the inspection and the volume of users. Estimated inspection fees range from $1.30 to $3.00 for an air or sea passenger to $360 for a commercial vessel.

## CONTINGENCY FUND

Question: To date, what uses have been made in 1989 of your contingency fund?

Answer: So far this year, we have released $2.6 million to eradicate the Mediterranean fruit fly infestation in California.

---

## QUESTIONS SUBMITTED BY SENATOR HARKIN

## PSEUDORABIES

Question: What level of funding for pseudorabies did the Veterinary Services division of APHIS recommend for fiscal year 1990?

Answer: For FY 1990, our recommendation to the Department was $5,130,000. As a point of clarification, in the budget development process, the various divisions of APHIS do not recommend one specific total program funding amount but instead are asked to describe what could be accomplished within a number of possible alternative funding scenarios. Recommendations are then formulated at the Agency level.

## SCRAPIE ERADICATION PROGRAM

Question: I am very concerned about the status of the Scrapie Eradication Program at APHIS. The information I have seen indicates a marked increase of the incidence of the disease in sheep and goat flocks in the past few years.

APHIS data shows that the number of identified scrapie outbreaks has increased from 11 flocks in 1980 to more than 50 in 1988. Yet as the number of identified outbreaks has increased, the amount of money APHIS has spent on indemnities for the Scrapie Eradication Program has not kept pace.

In 1986, for example, with 37 flocks identified as infected, APHIS paid indemnities of $498,802. In 1988, with over 50 scrapie infected flocks, APHIS paid indemnities of $224,883. In 1982 APHIS paid indemnities of $1.3 million on 18 infected flocks. These figures certainly appear to draw into question APHIS' commitment to the Scrapie Eradication Program.

Moreover, in the Federal Register of November 2, 1988, APHIS concluded that the current Scrapie Eradication Program has not been effective and requested public comment on whether to discontinue the program. I wrote to APHIS pointing out that the circumstances would support intensifying rather than discontinuing the Scrapie Eradication Program.

Please describe the current status of the Scrapie Eradication Program, including a description of the activities under the program, and the plans that APHIS has for the program over the next several years.

Answer: Under the current program, APHIS policy consists of a bloodline depopulation program with provisions for total flock depopulation when shown to be cost-effective and funds are available, and education of the public about scrapie. Once a scrapie-infected animal is found by an APHIS or State representative, the entire flock is designated as exposed. All infected and bloodline animals must be destroyed and Federal indemnity is paid which is currently set at two-thirds of the appraised value of the animal, not to exceed $300 per head. The remaining animals are maintained under surveillance for 42 months following the most recent exposure to the disease, and are subject to periodic inspection by APHIS or State representatives. We are continuing to cooperate with the Agricultural Research Service (ARS), the National Institutes of Health, and the University of Wisconsin in developing a diagnostic test for scrapie.

APHIS is working with the industry in developing options for restructuring the program through the negotiated rulemaking process. In the first quarter of FY 1989, we met with five major sheep producer organizations to discuss the future of the program. One alternative discussed would require a return to a program of destroying all infected and exposed sheep. However, depopulation of entire flocks would cost the Federal Government millions of dollars in indemnity payments and result in vast producer losses as well. Both APHIS and the industry view this approach as undesirable because most of the animals destroyed would likely present minimal risk of spreading the disease and by sheer volume would account for most of the indemnity paid. Also under consideration is the establishment of a scrapie certification program, under which participants could have their flocks certified as free of scrapie under terms and conditions to be developed. Finally, a panel composed of representatives from APHIS, the sheep and goat industries, purebred associations, and State veterinarians has recommended that efforts to develop a diagnostic test for scrapie be intensified and that more funds be allocated for research.

Question: I am not an expert on scrapie, but the information I have indicates that depopulation of scrapie infected flocks is an accepted and effective method of controlling the disease. Why is APHIS considering discontinuation of the Scrapie Eradication Program when the incidence of the disease appears to be increasing?

Answer: APHIS is not considering discontinuing the program. In FY 1988 and FY 1989, we continued to review the program in cooperation with industry representatives, producers, and State and Federal cooperators. Participants in the review recommended that the bloodline program be discontinued because it is neither epidemiologically sound nor cost-effective, and that we consider other program options. We are now in the process of studying the responses to the proposed changes.

The incidence of scrapie seems to be increasing due to an increased willingness on the part of owners of infected animals to report cases. In a flock depopulation program, reporting of the disease remains low due to the potential for high losses by producers. Under a bloodline depopulation program, there is more incentive for owners to report infected animals as their potential economic losses will not be as great.

Question: Please describe fully why the level of spending under the scrapie eradication program has fallen behind the increase in the number of identified infected flocks.

Answer: Under the previous total flock depopulation program, APHIS depopulated more animals, but covered fewer flocks. Whereas under the current bloodline program, we are detecting more positive flocks, but depopulate fewer animals.

Question: What type of program or effort is needed to eradicate scrapie, how does the current APHIS program fit into such an eradication effort, and what changes would be needed in the current APHIS scrapie program to put it effectively on track toward scrapie eradication?

Answer: For an effective scrapie eradication program, an effective diagnostic test for the live animal is needed. The current program is epidemiologically flawed and needs to be developed along more scientific and technically sound lines. APHIS is studying the matter in cooperation with representatives from the sheep and goat industries, purebred associations, and State veterinarians.

Question: What level of annual funding would be required, in total as well as for APHIS itself, to support an adequate program of scrapie research having the goal of eradication of the disease?

Answer: APHIS must defer to ARS in addressing the level of adequate funding, as ARS is charged with meeting the research needs of USDA. However, a funding level adequate for program needs is dependent on the type of program the industry will support.

Question: What level of annual funding would APHIS need adequately to fund a scrapie eradication program based on depopulation of infected flocks?

Answer: Without an effective diagnostic test, an eradication program is not feasible. Also, an adequate level of funding for a flock depopulation program would depend on current market value and the level of indemnity decided upon by industry. Scrapie is endemic to the United States, which has a population of over 10 million sheep. Depopulation of some individual flocks could run over $1 million. Consequently, industry has rejected this option as cost prohibitive.

## QUESTION SUBMITTED BY SENATOR KERREY

### EMERGENCY RESPONSE FLEXIBILITY

Question: Pest and disease control requires by its nature the ability to react expeditiously to unexpected outbreaks. The APHIS budget, with its line-by-line allocation of funds to specific pests and diseases exudes a rigidity which would seem to make very cumbersome the Federal response to unplanned, unexpected outbreaks of problems.

Although I note APHIS has allocated $4.5 million to "Contingencies," what general flexibility does APHIS have to respond to emergency situations? What alternative funding or resource allocation methods would you suggest to provide APHIS with greater flexibility?

Answer: The language in our Appropriation Act gives APHIS limited authority in responding to emergency situations using the contingency fund. The Fiscal Year (FY) 1989 Appropriation Act states that $4.5 million shall be available for the control of outbreaks of insects, plant diseases, animal diseases and for control of pest animals and birds to the extent necessary to meet emergency conditions.

Beginning with FY 1988, APHIS received authority to carry over the contingency fund balance to the next fiscal year. This legislation gives APHIS more flexibility in handling small scale pest and disease outbreaks. Although this no year authority was well received, the flexibility with which the contingency fund can be managed is still fairly limited. The size of the contingency fund remains relatively small which hampers how aggressive we are in dealing with new or re-establishing plant and animal pests and diseases. Also, the current size of the contingency fund does not take into account the recent authority granted to APHIS to use the contingency fund for control of pest animals and birds. A larger contingency fund with no year authority would greatly increase APHIS' ability to respond to small scale emergency situations.

Currently, any large scale emergencies are financed through Secretarial transfers. The approval process begins with a memorandum to the Secretary through the Assistant Secretary for Marketing and Inspection Services. If the Secretary declares an emergency and decides to transfer funds, an apportionment is requested from the Office of Management and Budget (OMB). The approval process can be time consuming. A more effective response would be if a more reliable and quickly available funding source were available for use by the agency in emergency situations based on reasonable criteria. One option could be to appropriate a $25 million emergency fund. Under this option, States could be required to contribute an amount to be determined by the Secretary to pay in full or in part for the cost of eradication and/or control measures taken in their respective States. Additional appropriations could be permanently authorized to maintain the $25 million level. This funding source could only be used for large scale long term eradication programs determined by the Secretary to be of an emergency nature.

## QUESTIONS SUBMITTED BY SENATOR COCHRAN

### BOLL WEEVIL

Question: Last year, the APHIS announced that a programmatic Environmental Impact Study (EIS) would be conducted on all boll weevil eradication and containment programs. What is the status of the EIS and the outlook for its completion?

Answer: APHIS has reviewed the preliminary draft of the EIS and provided comments to the contractor. The official draft EIS will be published and distributed for public comment later this spring. During the end of the 60-day comment period, we will hold meetings in Phoenix, Arizona; Montgomery, Alabama; and Lubbock, Texas. We expect to receive the final EIS by the end of 1989.

Question: The Department has requested $9.6 million for continuation of the High Plains boll weevil containment program and eradication programs for the West and South. Is this amount sufficient?

Answer: When we developed the $9.6 million estimate, we were confident that it was sufficient. This level of funding provides $766,000 to continue the containment program in the High Plains area of west Texas; $2.4 million for the eradication program in Arizona and Mexico; and $6.4 million for the eradication program in Southeastern United States. The $9.6 million level was based on a 300,000 acre program in the Southeast. However, 482,000 acres were included by farmers in this program last year. As more weevils survived the winter than were anticipated, spring treatments were applied the by Southeastern Boll Weevil Eradication Foundation, Inc., to 100 percent of the southeastern program area instead of the program plans of the 20 percent and were applied 7 to 8 times instead of the program plans of 3 to 4 times. As a result, the Southeastern Boll Weevil Eradication Foundation, Inc. incurred more chemical costs than anticipated and are now seeking a loan for approximately $7 million. Cost sharing on this loan is not included in this budget request.

Question: What is a realistic annual budget for completion of the current boll weevil eradication programs?

Answer: Given the restraints on the Federal budget, our request for $9.6 million for boll weevil eradication is a realistic budget. However, if no restraints were encountered the following chart shows the costs to complete the current southwest boll weevil eradication programs in Arizona and Mexico and the southeast program in North Carolina, South Carolina, Georgia, and parts of Alabama and Florida. Total unrestrained federal costs for the boll weevil program in FY 1990, including the eradication programs and the containment program, would be $15.671 million. This would not fund expansion of the eradication program further into Alabama and into Tennessee.

Boll Weevil Eradication
(Dollars in Thousands)

| | FY 1990 | FY 1991 | TOTAL |
|---|---|---|---|
| Southwest | $ 2,429 | $ 2,015 | $ 4,444 |
| Southeast | 12,476 | 12,476 | 24,952 |
| | $14,905 | $14,491 | $29,396 |

Program plans call for eradication efforts in the current program areas to be complete in FY 1992. However, federal funding will probably be required to cover the cost of surveillance and treatment of migrating weevils in the eradicated areas, and the containment program in the High Plains area of Texas.

## BRUCELLOSIS

Question: Over the past several years, a great deal of progress has been made on the brucellosis program--a good example of the cooperative Federal-State-industry effort. I'm now hearing that the reduction made in the program last year may cause a loss in the progress which had previously been made and, in fact, we may see a reinfestation on some of our major dairy areas. Do you agree with this assessment of the brucellosis eradication program?

Answer: No, we do not. While we would regard any further cut in funds for surveillance testing in the low-incidence States as imprudent, we feel that the current plan adequately safeguards against the reintroduction of infection. There has been no re-infection detected in dairy areas to date.

Question: What funding level would get the program back on track and ensure progress toward our goal of eradication?

Answer: We believe that the present plan is a reasonable approach to furthering the goal of having all States achieve Class A or Free status.

## CATTLE TICKS

Questions: I understand the cattle tick program is very important to Puerto Rico. Why have you proposed a $2.1 million reduction in the cattle tick program?

Answer: Most of the funding for this program, comes from Food and Nutrition Service (FNS) nutrition assistance block grant funds provided to Puerto Rico, and the Commonwealth's contributions. The FNS 1990 budget provides funding for a block grant to Puerto Rico. It is up to the Commonwealth to fund a cattle tick program within the amount budgeted in 1990. A viable program cannot be maintained without the FNS funding.

Question: What impact will this have on the program in Puerto Rico or is there no longer a problem?

Answer: We do not suggest that the cattle tick problem in Puerto Rico is resolved, only that a viable program will require the FNS funding. With the loss of both FNS and APHIS funding, the cattle tick program in Puerto Rico will end unsuccessfully at the end of FY 1989. Without APHIS funds, the program would incur a significant loss of technical and epidemiological expertise as most managerial and supervisory personnel would have to be replaced. In addition, a significant source of support for equipment and supplies such as pesticides, vehicles, and gasoline would no longer be available.

## AVIAN INFLUENZA

Question: I understand that the Animal and Plant Health Inspection Service made a recent proposal to permit exotic pet birds to be imported from approved closed breeding facilities in other countries without undergoing quarantine provided specific conditions were met. Poultry is an important and growing industry in my state as well as others. It would appear to me that this proposal would increase the possibility of another Avian Influenza epidemic. What was the response from industry and the public concerning your proposal?

Answer: APHIS received over 700 responses from the public, bird breeders, State Departments of Agriculture, and poultry industry representatives expressing concern about the proposed changes. Two commenters, the Hartz Mountain Corporation and the Caribbean/Central American Action, supported the proposal without change. One commenter, the American Veterinary Medical Association, supported the proposal, but suggested a number of changes. Several commenters addressed specific issues in the proposal, but indicated neither opposition nor support for the overall proposal. The remainder of the commenters opposed the proposal, expressing concern over the potential disease risk to domestic poultry and the possible negative economic impact on domestic bird breeders of the importation of relatively inexpensive birds.

Question: Was it made because of cost savings?

Answer: No, the proposed changes were requested by the commercial bird industry to promote a steady supply of parakeets to meet public demand.

Question: What specific conditions need to be met that would allow for no quarantine?

Answer: As outlined in the Federal Register, APHIS proposed a comprehensive set of conditions governing the importation of parakeets from approved closed access breeding facilities in other countries without undergoing quarantine. Specific conditions include the following:

--Birds must originate from a closed access breeding facility located in a country declared free of Viscerotropic Velogenic Newcastle disease (VVND) by USDA and have the capability to detect and eradicate VVND should it enter the country;

--The facility must be inspected weekly, under continuous guard, and subject to unannounced inspections by host country and APHIS veterinarians;

--The facility can only contain birds from the United States and facility-reared birds that are going to the United States;

--Birds entering and leaving the facility must be free of communicable diseases of poultry;

--Quarantine procedures must be in effect and all birds must be identified;

--Prior to shipment, the birds are to be fed a balanced, medicated feed ration, and samples from birds must test negative for VVND and forms of avian influenza lethal to poultry;

--Birds must be shipped alone, to and from the facility without stopping, and certified free of communicable diseases;

--All birds dying enroute must be made available for inspection by APHIS veterinarians, and

--Based on port-of-entry inspection and all other available information, there must be no evidence to indicate that any bird has any communicable disease of poultry.

## BUILDINGS AND FACILITIES

Question: You have proposed a $12.6 million increase in your buildings and facilities account. What is the increase for and why is it so important?

Answer: The $12.6 million increase proposal is made up of 3 components. The first is a $1.1 million increase to allow for more timely and adequate maintenance and repair of APHIS operated facilities. Since first established in FY 1982, Buildings and Facilities has increased by only $247,000. Additional responsibilities for maintaining existing buildings and those transferred to APHIS with the ADC programs along with the impact of inflation, have greatly reduced the Agency's ability to meet its needs.

A second increase requests $7.0 million to renovate the Denver Wildlife Research Center (DWRC). This increase will bring the DWRC research and methods development up to meet requirements of the Animal Welfare Act and Good Laboratory Practices regulations mandated by the Environmental Protection Agency for pesticide registrations. This construction will incorporate the present scattered animal quarantine, animal holding, and animal research laboratory, necropsy, and associated cage cleaning and equipment space into a central modern facility. A single animal care/maintenance unit within the DWRC would be organized to allow for more effective management and utilization of the staff.

The remainder of the increase request $4.5 million, is for the construction of the Plant Germ Plasm Quarantine Laboratory. The construction of this facility will complete the final phase of the 1979 Master Plan to re-build and modernize APHIS quarantine facilities in Beltsville, Maryland. The plant germ plasm building will consolidate all major germ plasm quarantine activities at the National Plant Germ Plasm Quarantine Center. The facilities currently utilized for plant germ plasm quarantine activities are dispersed, antiquated, understaffed and lack adequate security and space for the volume of material requiring processing. The new Plant Germ Plasm Quarantine Laboratory building will reduce the risk associated with importing quarantine restricted, but required plant germ plasm improve the efficiency of inspection, indexing, treatment, and release of prohibited germ plasm, and improve the safety of personnel using the existing facilities.

## ANIMAL DISEASE DETECTION

Question: What is your justification for increasing this program by $1.2 million?

Answer: A central element of this program is the National Animal Health Monitoring System (NAHMS) which collects, analyzes, and disseminates information on animal disease incidence, trends, and economic costs. The strategic plan for NAHMS delineates a national effort, capable of generating statistically reliable national summaries of the health and productivity of U.S. animals that will be useful and valuable to a broad audience, including consumers, producers, industry, government, and academia. With the pilot phase of the program having now been successfully completed, we are proposing to expand the system by adding States and herds/flocks into the program. Since FY 1988, Maryland, Virginia, Wisconsin, Illinois, Oregon, and Alabama have joined Tennessee, Georgia, Ohio, Michigan, Iowa, Colorado, and California in the program.

In FY 1990, APHIS plans to significantly broaden the program's focus by initiating a nationwide survey of swine health. At that time, additional States are expected to join the program including Indiana, Pennsylvania, Nebraska, New York, North Carolina, and Minnesota. The survey will encompass 62 percent of the nation's swine herds and 81 percent of the swine population. Additional States will be testing forms and procedures in FY 1990 in anticipation of a national dairy survey, scheduled for FY 1991.

Question: How will this benefit our producers?

Answer: Producers will benefit by obtaining a source of sound information on animal disease incidence, trends, and costs of prevention and treatment which will enable them to remain competitive and better manage risk. With such information they will be able to improve herd management and increase production efficiency. Improved recordkeeping made possible by the NAHMS will enable producers to perceive health problems and their consequences earlier, thereby improving the quality and safety of their products.

## QUESTIONS SUBMITTED BY SENATOR MCCLURE

### ANIMAL DAMAGE CONTROL

Question: Thank you for allowing me some time to question the witness before the subcommittee today.

Mr. Glosser, I have a few questions of the Animal and Plant Health Inspection Service. Many of my constituents were very concerned over the reorganization of APHIS. I know that it is now complete. Many personnel changes were made throughout APHIS. I am particularly interested in the personnel changes which were made in the Animal Damage Control program. Please identify these changes. Are you satisfied that these changes were made in accordance with merit procedures and in the best interest of ADC?

Answer: Yes, we are satisfied that the changes were made in accordance with merit procedures and are in the best interest of Animal Damage Control (ADC). In order to make better use of the personnel and streamline operations, ADC eliminated a GM-15 Assistant Director position from the headquarters Operational Support Staff. The incumbent was transferred to a similar position within the Agency with no loss in pay or grade where his skills could be better utilized. In addition, we transferred the Director of the Operations Staff to the position of Assistant to the Deputy Administrator, ADC. The transfer was made with no loss in pay or grade to the affected employee. In addition, we created a Resource Management Staff to better meet our administrative needs.

Question: What is the exact status of ADC's Management Information System (MIS) and in how many States is the MIS fully operational?

Answer: We are working on a long-range project to redesign the system using modern hardware and software. The end result will be a highly efficient nationwide data management system. The MIS is fully operational in six Western States and serves as a valuable tool for record keeping and reporting on program operations. We plan to have the MIS fully operational in all States by September 1991.

Question: ADC has contracted for and is in the process of developing a programmatic Environmental Impact Statement (EIS). What is the purpose of this EIS?

Answer: The EIS will provide the Agency with a sound, analytical, reference document for the ADC program. In addition, the National Environmental Policy Act requires that an EIS be conducted if the operation of a program could potentially cause significant impact to the environment or is highly controversial. We are conducting a programmatic EIS because the ADC program falls under these criteria.

Question: What is the status of the EIS and when will it be done?

Answer: We have contracted with Dames and More to coordinate the EIS. They are conducting environmental studies to ensure that the statement is legally and technically acceptable. The first draft draft will be ready by September 1989. Sixty days after the review process, the public will have a chance to comment on the revised draft. We anticipate a completion date of April 1990.

Question: How will it be used?

Answer: We will use the EIS as a basis for deciding on program alternatives and to document our compliance with the Environmental Policy Act.

Question: During the past few months there has been considerable activity with respect to pesticides. Do you have sufficient funds proposed in the 1990 budget to cover the increased costs of data call in on these pesticides? This includes rodenticides and avicides. Please identify the amount of funds necessary to maintain or expand current pesticides to meet the needs of the agriculture industry.

Answer: We have proposed sufficient funds to purchase equipment, upgrade facilities, and employ the personnel necessary to maintain a core capability in Good Laboratory Practices and pesticide registration. To address all additional needs identified by the agricultural industry, we would need approximately $3.5 million in FY 1990 to maintain current registration, expand current uses, and develop new or replacement chemicals.

Question: Closer to home, I am concerned about a rumor I have heard concerning the Pocatello, Idaho, ADC depot. Are there any plans to reduce the services of this depot? If so, what is planned and why? Are there plans to shut the depot completely?

Answer: At this time, we have no plans to reduce the services of the Depot or to close it.

Question: The Idaho Woolgrowers Association has discussed with me the need to compile a report on the total amount of predation losses suffered by Woolgrowers due to coyotes, wolves and grizzly bear. The Economic Research Service has estimated that a report of this size and scope would cost $300,000. Could APHIS complete this report for less money?

Answer: Currently, we do not have a cost estimate for an APHIS directed damage report. We are working with the National Agricultural Statistic Service to develop a method for compiling this report. We are also conducting a feasibility study on the scope and specific costs involved. Once we have developed a cost estimate, we will be happy to provide you with that information.

## NOXIOUS WEED

Question: Common crupina is a noxious weed which infests thousands of acres in Idaho, Washington, and Oregon. APHIS, in conjunction with the University of Idaho, conducted a research program which showed that this weed could be eradicated. The weed is spreading quickly. A total program of eradication must be begun this year. I plan to request full funding to this program. I have been told that $1.245 million is necessary to fully fund this program. The reason it is so high is because APHIS has told the University that their overhead costs will run 30 percent. I am appalled at this overhead. Most private companies would charge much less, approximately 10 percent. Why is APHIS overhead so high?

Answer: Our overhead charges for the Agency are 5.35 percent and have never been 30 percent. This overhead supports administrative services. In addition to overhead we make assessments to the programs for various program support functions such as laboratory and methods development assistance.

Question: Why cannot APHIS operate with a much lower overhead and reduce the cost of the total program?

Answer: The $1,245,000 that you quoted is a good estimate of the first year's costs for APHIS as full support for the common crupina program. APHIS has not developed operational plans for this program. Typically, we cover the cost of program coordination, planning, laboratory support, and methods development, as well as eradication efforts or cooperative assistance to the States. Obviously, the cost of the program would be reduced if we were to lower our assessments and reduce the assistance we provide and the program would suffer. I believe that APHIS is competitive with private industry in providing technical expertise and service at a reasonable cost.

## RUSSIAN WHEAT APHID

Question: APHIS will be a continuing part of any efforts to find solutions to the Russian wheat aphid invasion. A proposal has been brought to my attention entitled the "National Russian Wheat Aphid Integrated Pest Management Program". This program needs funds of $9.5 million dollars each year for 10 years in an attempt to find an integrated approach to reducing damage of the Russian wheat aphid. APHIS would receive several million of these funds over ten years. You stated in your testimony that your budget for FY 1990 includes a $2.4 million increase for the biocontrol program to accelerate the development and implementation of biological control techniques some of which is slated to be used for Russian wheat aphid research. Could some of these funds be used to implement the National Integrated Pest Management Program for the Russian wheat aphid?

Answer: We are committed to finding effective control techniques for use against the Russian wheat aphid. This effort includes work in support of the National Integrated Pest Management Program. In fact, $750,000 of our proposed increase is for this program.

## GRASSHOPPER

Question: Your budget recommends a reduction in the grasshopper program of $2.9 million. As you know, I am very interested in this program as one of the worst outbreaks of grasshoppers occurred in my State of Idaho, two years running. Although Idaho has not been concerned with grasshopper infestations for several years now, I provide funding each year to maintain a research program as well as the fall and spring surveys to determine whether there may be a problem upcoming. If your budget recommendations are followed, what is the remaining budget for grasshopper control, surveys and integrated pest management program for grasshopper control?

Answer: We have requested an appropriation of $595,000 for surveys, control, and the Integrated Pest Management program (IPM). The IPM will cost $3 million, and the remainder will be divided between survey and control activities as needed. In addition to these new funds, we have a plan to use the no-year fund carryover for control efforts.

Question: If an outbreak were to occur in 1990 would APHIS be able to respond in a timely and efficient manner with the amount of funds provided?

Answer: If our current estimate of FY 1989 grasshopper populations are accurate, we should have a sufficient carryover of no-year funds to efficiently respond to an outbreak in FY 1990. Also, we have a Memorandum of Understanding with the Department of the Interior (Interior) which would provide additional funds to control infestations on land under Interior's jurisdiction should our control funds be exhausted.

Question: Is the programmatic EIS on grasshoppers still current? Would it withstand a court challenge if a control program becomes necessary?

Answer: The grasshopper program Environmental Impact Statement (EIS) was published in 1987 and is still current. Therefore, the EIS should be able to withstand a court challenge.

---

## QUESTIONS SUBMITTED BY SENATOR SPECTER

Question: Recent reports indicate that the spread of rabies is increasing nationwide, specifically on the Eastern seaboard and many areas in the Commonwealth of Pennsylvania. I understand that the Wistar Institute of Philadelphia, Pennsylvania, has recently developed a new vaccine that may be orally administered to wildlife to control the spread of rabies. I am further advised that the Wistar Institute has applied for Department of Agriculture approval to conduct a field trial of the vaccine.

Please indicate the locations of the increase in the incidence of rabies nationwide, specifically focusing on geographic regions and rural and urban communities.

Answer: Public health, veterinary, and wildlife officials have in recent years been concerned by the current increase of raccoon rabies in the mid-Atlantic and Southeastern United States. Enzootic raccoon rabies, first recognized in Florida during the 1940's, has increased in geographic distribution at the rate of approximately 25 miles per year so that by 1976, it included much of Georgia and parts of Alabama and South Carolina. The recent mid-Atlantic outbreak of raccoon rabies was first reported in West Virginia in 1977, and along the Virginia-West Virginia border in 1980, several hundred miles north of the endemic disease front. By 1983, the mid-Atlantic States, West Virginia, Virginia, Maryland, Delaware, Pennsylvania, and the District of Columbia, were reporting a substantial annual increase of cases of rabies in raccoons alone. The epidemic is now advancing into regions where rabies in land mammals has been nonexistent for years.

In response to our Environmental Assessment of the proposed trial, the following facts were presented at the public meeting to discuss the preliminary finding of no significant impact from the field trial. The Delaware Department of Health and Social Services reported that raccoon rabies was first identified in that State in November 1987, and again in September 1988. The first case was identified south of the Chesapeake and Delaware Canal. The disease is now in the Delmarva Peninsula, ending hopes that the canal would serve as a physical barrier to prevent the spread of the disease.

In Pennsylvania, the Philadelphia Department of Public Health reported that terrestrial rabies had not been seen in that city since 1948. Since the beginning of this year, 3 rabid raccoons have been found in the city limits and 1 more within 150 yards from the city limits. The Commonwealth of Pennsylvania Department of Health reported that there had been 1,489 cases of animal rabies in that State since January 1986, and that Pennsylvania was leading the Nation this year with 126 cases reported through March 18, 1989.

Question: Has the Department, prior to today's date, evaluated the application and heard public testimony with respect to the Wistar Institute's application for a field test?

Answer: Prior to the preparation of the APHIS Environmental Assessment and Preliminary Finding of No Significant Impact, data submitted by Wistar were evaluated by personnel from the Veterinary Biologics staff of Biotechnology, Biologics, and Environmental Protection (BBEP). The Veterinary Biologics staff advised Wistar personnel on the data requirements needed to satisfy the provisions of 9 CFR 103.3 pertaining to the field testing of an experimental biological product. After APHIS personnel determined that Wistar had supplied sufficient data in order to make a determination about the vaccine's safety and the impact on the environment, an environmental assessment was prepared by BBEP personnel.

The Assessment was then reviewed by two groups outside of BBEP, the Veterinary Biologics Biotechnology Committee (VBBC) and the National Vaccine Program Office of the U.S. Public Health Service. The VBBC is comprised of representatives from the Veterinary Biologics Staff, from Veterinary Services, APHIS; Agricultural Research Service, USDA; Food Safety and Inspection Service, USDA; National Veterinary Services Laboratories, APHIS; Office of

Recombinant DNA Activities, National Institutes of Health; Food and Drug Administration, Health and Human Services; Veterinary Biologics Field Operations, BBEP; and the Office of the General Counsel, USDA. The review staff from the National Vaccine Program Office included representatives from the Centers for Disease Control, Food and Drug Administration, and the National Institutes of Health. Prior to announcing the availability of the document, USDA's Office of Agricultural Biotechnology received notification regarding this proposed action.

APHIS anticipated there would be considerable public interest in the Agency's review of data in determining the impact on the environment in conducting the field trial. For this reason, APHIS published a notice in the Federal Register on January 4, 1989, on pages 161-162, advising the public of the request to conduct the field trial, and listed some of the types of information that would be necessary for review in deciding whether authorization would be granted to conduct the field trial. The notice also specified that a copy of Wistar's preliminary safety data and field trial protocol was available from the Agency. The notice further specified that if approval is granted for the sponsor to conduct a limited field trial, APHIS would publish a notice of availability of an environmental assessment 30 days prior to the commencement of the field testing.

On March 6, 1989, on pages 9241-9242, APHIS published a second Federal Register notice announcing the availability of its environmental assessment and its preliminary finding of no significant impact relative to the conduct of the limited field trial. APHIS further announced in the notice that it was holding a public meeting on March 30, after receiving a request from an interested party, to convene a meeting in which the public could participate in an open discussion of the issues raised in the environmental assessment. The notice summarized the facts supporting the Agency's preliminary finding of no significant impact.

At the public meeting, interested parties were given the opportunity to ask questions of the APHIS technical staff that prepared the environmental assessment and the panel of experts that had reviewed the document. Clarifying questions were directed to the technical staff and panel and 25 persons read statements into the record. No one at the public meeting expressed opposition to Wistar conducting the limited field trial.

Question: What is the result of these evaluations?

Answer: APHIS made its Preliminary Finding of No Significant Impact based on demonstrated safety under biological containment conditions, the satisfactory conclusion of three field trials in Europe and the conditions of the proposed limited field trials. There was not any substantive data presented at the public meeting or in written comments that would alter the APHIS preliminary findings with regard to the safety of the vaccine.

Question: Do you foresee any adverse impacts on the environment or wildlife as a result of the field test?

Answer: Nothing that was said at the public meeting would cause APHIS to change its initial finding of no significant impact that was made in the environmental assessment.

Question: What precautions will the Animal and Plant Health Inspection Service (APHIS) and the Wistar Institute conduct during the field test to ensure the public safety and the integrity of the environment.

Answer: The protocol for carrying out the study calls for limiting human exposure to the vaccine. This includes the existence of warning signs on the islands and increased patrolling by wildlife officials and Wistar personnel during the time vaccine baits will be in the field. The baits will be deployed for 10 days or less. At the end of this period, all uneaten baits will be retrieved. The baits themselves are of a consistency and odor, that human tampering, if found by an uninformed individual, is unlikely. They will be distributed in a plastic bag which is printed with a warning "DO NOT TOUCH CONTAINS LIVE VACCINE, Consult a physician immediately if contact occurs." The site of each bait placement will be recorded in order to assure that uneaten baits are removed. Personnel at the U.S. Coast Guard Station on Parramore Island will be advised of the tests and told to stay out of the test area. Personnel working in the study sites will have been immunized against vaccinia within the last 3 years. All animals found dead during the trial, and animals trapped during the trial will be checked for any adverse effects from the vaccine. Trapping will be carried out in nonbaited areas to determine if there has been any spread of the vaccine virus. The selection of the island habitat for the study, while not totally eliminating the possibility of vaccinated animals escaping, and because no biological transmission of the vaccine has been demonstrated, greatly reduce the probability that the vaccine could spread from the test site.

Question: What is the current status of the Wistar Institute's request for a field test?

Answer: On March 31, 1989, Commissioner Michael Jarrett of the South Carolina Department of Health and Environmental Control (DHEC) advised APHIS via letter that DHEC objected to Wistar conducting the field trial in South Carolina, because his Agency felt that the health and environment of the citizens of South Carolina could not be assured. No specific data or reason that would support that statement were presented. No one from DHEC attended the public meeting on March 30. A representative from the South Carolina Department of Wildlife and Marine Resources presented a statement in support of the field trial, at the public meeting.

On April 13, 1989, APHIS personnel met with Commissioner Jarrett in Columbia, South Carolina, to obtain additional information that would further explain their position. While DHEC personnel commended APHIS for the thoroughness of its environmental assessment pertaining to the safety of the vaccine, additional information has been sought by DHEC relating to the protocol for field testing. DHEC personnel have asked for additional information concerning procedures to assure test site security, monitoring, and evaluation.

On April 14, 1989, APHIS personnel met with personnel from Wistar to advise them of the types of additional information requested by DHEC that would address their concerns. Wistar personnel have agreed to provide the additional information that would more specifically address site security, monitoring and evaluation.

A Record of Decision was signed by the APHIS Administrator, Dr. Glosser, on April 14, 1989, which affirms the Agency's Preliminary Finding of No Significant Impact. The Record of Decision concludes that there were no new substantial scientific issues raised at the public meeting which would change the conclusions in the Preliminary Finding of No Significant Impact.

Under our regulations in 9 CFR 103.3, APHIS cannot authorize the Wistar field trial until it receives a letter of permission from the appropriate animal health officials where the field trial is to be conducted.

The State of Virginia is planning on holding a public meeting on April 18, in the vicinity of the Virginia test site. APHIS personnel will be present to discuss the Environmental Assessment and answer any questions. We expect Virginia officials to make a decision on whether to allow the field trial, shortly after the meeting.

---

## QUESTIONS SUBMITTED BY SENATOR HATFIELD

Question: Regulations governing the use of the Harry S Truman Animal Import Center (HSTAIC) in Key West, Florida, have been in the process of being drafted for approximately a year and a half. Could you please provide the Committee with a firm date by which you expect them to be completed?

Answer: We are in the process of reviewing the current regulations and examining various options. It is our intent to publish new regulations by the end of FY 1989.

Question: The last time that applications were received by APHIS for the use of the HSTAIC a number of problems arose. These problems centered around the use of a first-come, first-served system for allocating the use of the facility. Is it your intention, when the regulations are promulgated, to use a similar system?

Answer: We hope to set up a system with the new regulations that will resolve many of the issues associated with the current system.

Question: Can you provide the Committee with some of the possible alternatives that APHIS is currently considering?

Answer: A variety of options are under consideration, but no definite plan is yet developed.

Question: Concern has been expressed to me about the domination of the HSTAIC by a limited number of llama importers. Will the regulation encompass a method to equitably allocate the use of this facility, such as by limiting a group to a single use during a two-year period?

Answer: We are aware of this potential problem and are looking into various alternatives to address it, including the one you suggest. A system to satisfy this issue will be an integral part of the final regulations.

Question: What other options are being explored to ensure that the use of the facility is equitably allocated?

Answer: I am not able to specify other options at this time, as they have not yet been fully developed.

Question: When do you expect that regulations would be promulgated to formalize current protocols governing the importation of animals from foot-and-mouth disease (FMD) countries to the United States through a third country that is free of FMD?

Answer: Regulations governing the importation into the United States of animals which at some time have been in FMD countries are in the data-gathering phase, prior to drafting. As a point of clarification, these movements, both from a technical and legal standpoint, start in a FMD country and continue to a third country which is FMD-free, where they end. Any further movement from the third country to the United States is considered by APHIS to be a separate movement, so the animals are not viewed as moving "through" the third country to the United States. We are aware of the growing interest in moving animals through third countries, but a careful analysis of the situation is essential in order to protect this country's livestock.

Question: Concerns have been brought to my attention regarding what these regulations might encompass. I would hope that you could help me by clarifying whether the following matters from existing protocals might be addressed. Will it be permissible for two foreign countries to agree to ship animals from a FMD country to a FMD-free country?

(a) If the two countries ensure that the animals are quarantined according to USDA standards in each country, will the animals then be eligible for shipment to the United States?

(b) If the animals are quarantined in the FMD-free country then released for 60 days, would they then be regarded as animals of the FMD-free country?

(c) If they qualify as animals of the FMD-free country, what procedures would have to be followed before they could be released into the United States?

(d) Would this include additional quarantine and testing?

(e) What would be the length of the quarantine in the United States?

(f) What tests would be performed?

(g) Would it be possible to use in private quarantine facility, and under what circumstances?

Answer: All of the points you raise will be taken into consideration in the development of these regulations. However, it would be premature to give an answer to specific issues, with one exception. The use of a private quarantine facility for the importation of animals from a FMD country is forbidden by law.

## GYPSY MOTH

Question: Please provide me with an updated status report on the Gypsy Moth infestation in Oregon. How many acres of forest land in Oregon are currently infested?

Answer: After 4 years, an infestation of 227,000 acres in Lane and Douglas Counties was eradicated in FY 1988. The program represents the first time Bt has been used successfully to eradicate an infestation of this magnitude.

Question: Will eradication efforts be applied to these acres?

Answer: We do not expect any need to conduct further eradication efforts in Lane and Douglas Counties. We plan to remove the quarantine and conduct follow-up trapping in Oregon.

Question: Does the FY 1990 budget request contain sufficient funds to cover the costs of Gypsy Moth eradication in Oregon?

Answer: Since no need is anticipated, no funds are included for gypsy moth eradication in Oregon.

## GUARDING DOG PROGRAM

Question: Please provide me with a status report on the Guarding Dog Program. What level of funding is contained in the Administration's FY 1990 budget request for this program?

Answer: As the committee instructed, we have expanded the guarding dog program in Montana. Livestock producers there may request assistance from our dog specialist in Dubois, Idaho. We will also supply ranchers with detailed information about how to use livestock guarding dogs, how to raise and train the dogs, and where to purchase them. Our dog specialist plans to meet with State and local wool growers associations to inform them of the potential usefulness of guarding dogs for predator control. This specialist will also make on-site visits to provide technical advice upon request, and provide briefings and training in the principles and concepts of effective guarding dog applications to predator control.

Our guarding dog specialist conducted site visits before placing dogs with sheep producers. The specialist then conducted follow-up visits to monitor their effectiveness, disseminated guarding dog literature to ranchers, and briefed ADC State personnel on guarding dog use.

In FY 1989, we doubled the number of guarding dog specialists by hiring a second biologist to conduct the guarding dog program in Oregon and Washington. With two specialists, we are able to significantly expand our information dissemination efforts. We are now working on a bilingual video to train prospective livestock producers, ADC personnel, and other interested people in the concepts of using guarding dogs. In addition, we will revise, update, and reprint the USDA Agriculture Information Bulletin on guarding dogs and distribute it to dog specialists, other ADC personnel, the Extension Service, and interested parties.

We plan to continue funding for the guarding dog program at the current spending level.

## CALICIVIRUSES

Question: It is my understanding that increasing numbers of caliciviruses are emerging from natural reservoirs and are threatening the health and safety of domestic livestock. To what extent is APHIS currently involved in monitoring the spread of caliciviruses?

Answer: Currently APHIS has no specific program to monitor caliciviruses.

Question: Does APHIS currently have a calicivirus research program in place? If so, how much money will be spent on this research in FY 1989?

Answer: In FY 1989, we expect to provide $30,000 for a cooperative agreement with Oregon State University for calicivirus research.

Question: Do you believe the caliciviruses present a serious problem for domestic livestock producers? If so, what level of funding would be necessary to adequately address the problem? If not, why not?

Answer: We do not believe that caliciviruses present a problem. We have received no reports of vesicular disease symptoms in domestic cattle that were caused by a calicivirus. We do not expect calicivirus to become prevalent in domestic cattle nor do we feel that it threatens swine. The Code of Federal Regulations requires that fish meal from the west coast, where calicivirus is believed to have originated, be cooked before it is fed to swine; thereby effectively eliminating the threat of a calicivirus outbreak.

# FOOD SAFETY AND INSPECTION SERVICE

## QUESTIONS SUBMITTED BY SENATOR BURDICK

### PROPOSED IMPROVED PROCESSING INSPECTION SYSTEM

Question: The FSIS budget acknowledges a savings of $4,610,000 and 148 inspection staff years through reduction of the numbers of inspectors required to inspect processing operations. Assuming that you do not have the Improved Processing Inspection system in place by the start of the fiscal year, will this figure require amendment?

Answer: FSIS is reconsidering the workforce implications of the Improved Processing Inspection System. Among other things, this summer the Agency is planning to hold public hearings on the new system to receive more information before issuing final rules. The level of the inspection force needed will no doubt be one of the issues addressed during these deliberations. If the final program design does not permit a significant reduction in inspection in 1990, we will have to consider realigning our resources from such areas as planned improvements in residue control to the coverage of processing inspection.

### STREAMLINED INSPECTION REGULATIONS

Question: Dr. Crawford, proposed streamlined inspection regulations for cattle would increase the line speed and repetitive motions of workers. Is meat slaughtering considered a dangerous occupation?

Answer: The meat slaughtering environment includes wet, slippery floors and heavy objects moving overhead, along with the use of knives and heavy, automated equipment, all of which contribute to a particularly hazardous situation.

Question: Would these recommendations expose workers to greater risks of injury?

Answer: The proposed changes should have the effect of reducing injuries to inspectors. Many injuries are caused by encroachment of inspector work space by plant employees, lack of standard procedures and motions, or knives. With the new system, the workspace is more clearly defined, presentation of the carcass and parts for inspection is more uniform, and the number of knife cuts required to be made by the inspectors is fewer.

Question: Is there any conflict between OSHA requirements and past reporting violations by plants eligible to streamline slaughter inspection operations?

Answer: We pay careful attention to OSHA requirements and ergonomics in the workplace, and have sought the assistance of our industrial engineers in designing new procedures, establishing work loads and mandating facility requirements that would contribute to a safer work environment. Our Agency health and safety program will continue to be as visble under SIS as it has been with the traditional systems.

## PENALTIES FOR VIOLATIONS

Question: Dr. Crawford, often public disclosure of violations can provide an incentive for maintaining adequate health and safety standards. Would FSIS object to making known the identities of plants failing to meet health and safety standards on a regular basis? Why or why not?

Answer: FSIS does not object to making known the identities of plants whose product poses a threat to public health. In dangerous situations--involving recall of product or withdrawing inspection--FSIS does inform the public through press releases. For minor, correctable deficiencies, like those that occur almost daily in all plants, we now have sufficient controls to assure that the deficiencies are corrected on the spot and that products leaving those plants are safe, wholesome, and truthfully labeled.

## IPI REDUCTION IN INSPECTIONS

Question: Dr. Crawford, the Improved Processing Inspection System has been described as making it possible to apply resources more effectively, intensify inspection at unsatisfactory plants, and reduce inspection at plants with good performance. How many plants do you expect will have reduced inspections?

Answer: Comments received on our proposed IPI regulations have led us to reexamine the basis for inspection frequency. We are planning to withdraw that proposal and reexamine the system this summer.

As a minimum estimate, data from Annual Circuit Review Reports for the years 1985 through 1987 show that an average of 15 percent of the plants reviewed had no adverse findings and thus at any given time it might be expected that at least fifteen percent of plants, or 900 out of 6000, would be under reduced inspection.

The basis for determining the frequency of inspection would be the *Inspection System Guide*, which defines inspection activity for Improved Processing Inspection. The *Guide* is structured around processes (departments or categories of activity within a production facility), critical control points (crucial components of a process), and tasks (inspection activities performed to determine the level of control of a critical control point).

An examination of the critical control points in each establishment is the best indicator of the adequacy and reliability of that establishment's processing controls and sanitary procedures. Each critical control point would have a standard frequency of inspection that would approximate the frequency at which the same tasks are performed under current daily inspection. The standard frequency would reflect the Agency's assessment of the public health and/or economic adulteration risks associated with the critical control point.

Each critical control point would also have one or more intensified frequency levels and one or more reduced frequency levels. If a critical deficiency is found through the performance of an inspection task, the critical control point in which that task appears would immediately rise by one level of inspection frequency. Inspection frequencies would also rise or fall when the number of major, minor, or total number of all deficiencies within a process fall outside "Standard Performance Levels". Standard Performance Levels are now being developed through study of Performance Based Inspection System data. Inspection visits would be determined by the most frequently occurring critical control point at the establishment, which would continually be evaluated as plant compliance history is accumulated.

Question: How many plants will require intensified inspections?

Answer: We are starting a reexamination of our proposed procedures for determining frequency of inspection. However, as an indication of what we might expect, data in the Agency's Review and Evaluation Annual Circuit Review Reports for the years 1982 through 1987 show that Inspection Location Reports were issued at four percent of the establishments reviewed. If this percentage is representative of what we finally define as a problem plant, then we would expect at least 240 of the 6000 processing plants might be under intensified inspection.

Question: Will FSIS employ unannounced, surprise visits at both categories of plants?

Answer: Under current proposals, the Agency would use unannounced random visits, in-depth plant reviews, and supervisory reviews (including odd hour visits) to determine compliance of plants under reduced inspection. These procedures would also be applied to plants under intensified and standard inspection frequency. Data accumulated from these visits would become part of the plant's compliance history used to determine intensity of inspection.

Question: Have you stated that by 1992 you expect to reduce the FSIS processing inspection work force by one half, from about 2,200 to 1,100?

Answer: Less Than Continuous Processed Product Inspection was first proposed in legislation introduced in 1982. Based on the submittal of this legislation, FSIS estimated cost savings which included projections that the number of processing inspectors would decrease from 2,200 to 1,100 over a seven year period. Public reaction to the proposal has prompted the Agency to proceed much more slowly in implementing the new program and to reexamine the basis for the system. When this process is complete we will reevaluate the potential savings in dollars and staff. Certainly, the schedule of resource requirements will be altered.

Question: Under such a scenario, would you expect to provide intensified inspection at plants, failing to meet compliance requirements?

Answer: Inspection assignments should be based on the risks inherent in a process and cumulative plant compliance history. Those plants whose operations pose a potential threat to the safety or wholesomeness of the product would be subject to more intensive inspection than those who do not pose so immediate a threat.

Question: What standards would you use to reduce inspections?

Answer: We would use the analysis of plant Critical Control Points. Each critical control point would have one or more intensified frequency levels and one or more reduced frequency levels. If an inspector finds a critical deficiency, the critical control point in which that task appears would immediately rise by one level of inspection frequency. Inspection frequencies would also rise or fall when the number of all deficiencies within a process fall above or below "Standard Performance Levels". Standard Performance Levels are now being developed through study of Performance Based Inspection System data. Inspection visits would be determined by the most frequently occurring critical control point at the establishment. This would continually be evaluated as plant compliance history is accumulated.

Question: Would FSIS increase all-day inspector presence at plants with poor compliance performance?

Answer: Yes, if more inspection were needed to assure compliance. A milder alternative is to increase the number of items monitored each day, and consequently the amount of time the inspector actually spends in the plant. In some situations this would result in "all-day" inspector presence or even more than one inspector assigned to a plant if the workload required it. This, we believe, is a major feature in making Improved Processing Inspection more effective than the present system. Current staffing does not allow the Agency to provide all-day inspector presence in many plants, some of which have poor compliance histories. Under Improved Processing Inspection, the Agency would have the flexibility in assigning resources necessary to effectively implement progressive enforcement procedures under two existing Agency policies for plants with poor compliance histories. These policies are expressed in the directives, *Establishments Requiring Additional Inspection Effort*, and *Intensified Regulatory Enforcement*.

Question: What record keeping requirements will be imposed on plant operations when federal inspectors are not present? Will these records be available to the public?

Answer: The proposed Improved Processing Inspection System would impose two new record keeping requirements: (1) records of product found to be adulterated and destroyed by plant management and (2) records of label approvals. These records, as well as all records which FSIS requires to be kept under the meat and poultry regulations, are intended to be used in the event compliance actions are warranted. Determinations regarding the availability of these records to third parties would be made in light of the circumstances surrounding a request for those materials. For example, if the documents have not been incorporated into FSIS files, the materials would remain the property of the company. However, if copies of the documents were maintained in FSIS files, they would be available under provisions of the Freedom of Information Act.

It is important to emphasize that inspection intensity under IPI would be determined based on inherent risk of an operation and plant compliance history, as determined through on-site inspection of operations. Review of plant records would not become the principle form of inspection activity in the plants.

## IPI INSPECTION STANDARDS

Question: Dr. Crawford, under the proposed improved inspection system, would inspectors finding violations remain in a plant until corrective action had been taken?

Answer: Violations would be classified as critical, major, or minor deficiencies, based on criteria specified in Agency regulations. A deficiency is critical if plant controls are failing to prevent adulterated or misbranded products from reaching consumers. In those cases, the inspector would take official control action by placing a "U.S. Retained" or "U.S. Rejected" tag on the affected product or facility.

Inspectors would determine when official control action is to be used for major deficiencies. When an official control action is taken, plant management would propose to inspection personnel the corrective action for the present situation and the actions to be taken to prevent the recurrence of the problem. If the inspector is not present to receive the proposal, the plant would contact FSIS supervision to propose the corrective action and arrange for inspector verification of corrective action and release of the officially controlled items.

Minor deficiencies would not require official control actions. When official control action is not taken, plant management is informed that, if the deficiency is not corrected while the inspector is present, corrective action would be verified on subsequent inspection visits. Deficiencies not corrected quickly would be placed before program supervisors for further action.

Question: Would correction of violations, without on-site inspectors, in any way compromise public health?

Answer: Official control actions would begin whenever violations are recognized as public health risks. Products and/or equipment and facilities could not be used or destroyed by the establishment until corrective action has been proposed, verified, and the official control action released by an authorized employee of the Department. These controls would be sufficient to protect public health.

Question: Will reliance on a computer-based scheduling system limit inspectors' flexibility to pursue leads or initiate inspections as they deem appropriate?

Answer: The Agency realizes that all plants are different. On any given day, not all situations can be covered through scheduled inspection tasks. Thus, the Agency has trained inspection personnel, since the inception of task scheduling in 1980, to deviate from assigned tasks and react to any situation where product is suspected of being adulterated or mislabeled.

Question: Would inspectors be penalized for deviating from computer schedules?

Answer: It would at times be part of the inspector's duty to deviate from computer schedules. Inspectors would, however, be expected to notify their supervisor when they depart from scheduled activity. This notification would enable the Agency to adjust inspector assignments to assure adequate inspection coverage of other plants on the inspector's circuit, in the event that his/her deviation from the assigned tasks has prevented him/her from carrying out other assigned duties.

Question: Would FSIS support whistleblower protection for federal and corporate employees who disclose violations? How would an adequate whistleblower protection program be designed?

Answer: FSIS has a cadre of regional investigators to look into employee whistleblower concerns. If a charge of reprisal against a whistleblower occurred, FSIS would either review the charge through its regional investigators, or would refer the matter to the Office of the Inspector General. Agency policy on employee whistleblower concerns is guided by the *Code of Federal Regulations*.

FSIS has established a program for investigating disclosures of violations of inspection requirements by corporate employees in conjunction with the OIG. However, the responsibility to intervene to protect employees of private companies from retaliation by their employers belongs to other law enforcement authorities.

## SCIENTIFIC BASIS OF IPI

Question: What is the scientific basis of the proposed improved processing inspection system?

Answer: The Improved Processing Inspection System is designed to allocate inspection resources based on the risk inherent in the processing operations conducted at the plant, and the plant's performance history in controlling its processing operations.

The scientific principles of systems analysis, information resource management, and risk management have been used to develop this system. Systems analysis was applied in classifying processing inspection into the processes, critical control points and inspection tasks which determine a plant's ability to control critical control points. Resource management principles were used in the designing of computer software programs to collect results from performance of inspection tasks and generate inspection schedules based on inspector findings. Risk management principles were used to establish critical control point inspection frequencies and a task weighting system which focuses inspection on public safety. Additionally, Hazard Analysis of Critical Control Points principles would be incorporated into the risk assessment methodology as the system is fully developed. FSIS would also conduct further risk assessment as part of continuing work to finalize operational procedures for switching plant frequencies.

**Question: Do you have a scientific standard for determining the level of microbiological contamination that poses a risk to human health?**

Answer: In general, there is very little information on the numbers of live pathogenic microorganisms of a given genus, species, and strain which may pose a health threat to the average person, let alone to selected population groups. The basis of FSIS' regulatory approach to the question therefore considers the further preparation expected of the product.

Some products are presented as ready-to-eat; these are primarily pasteurized or fermented products. USDA interprets the Inspection Acts to consider these products adulterated if they contain anything injurious to health. The presence of infectious bacteria such as *Salmonella, Listeria monocytegenes, and Escherichia coli*, strain 0157:H7, in these products renders them adulterated under the law. The presence of microbial toxins such as staphylococcal enterotoxin, botulism toxin, and others are treated the same way.

In the case of other products, these standards are not applicable. For example, uncooked meat patties have no standard. For these products, the public health risk is that they are uncooked. Proper cooking is necessary to eliminate their potential health risks.

There are no available standards for total bacteria levels, which for the most part consist of non-harmful spoilage bacteria. Spoilage of heat-processed products in plants is rare but can be monitored in-plant or in the laboratory by normal organoleptic procedures.

Question: Can a risk assessment program function without such knowledge?

Answer: For products processed to be ready to eat, most of a risk-assessment program can be constructed independently of determining bacteria levels. Canneries and dairies are examples of such operations. The system is constructed by scientifically designing product handling equipment, sanitary design of equipment, predetermining the temperature, humidity, and time of heating processes, use of continuous humidity, temperature and time recorders, and similar measures. Using available data on microbial heat lethalities, proper design can produce processing procedures based on risk assessment. Final product testing for microbes verifies proper operation of the process.

Question: Have you stated that your new inspection program is supported by the National Academy of Sciences?

Answer: We have stated that our new inspection system is based on recommendations of the National Academy of Sciences. After reviewing the scientific basis for the inspection program, the NAS in 1985 recommended that FSIS use advances in science and technology to move inspection from a labor-intensive, organoleptic process to one that uses more scientific methods, focuses on prevention, and requires the industry to shoulder full responsibility for complying with meat and poultry inspection laws.

The Academy further recommended that an optional meat and poultry inspection program should include "an inspection system with different levels of intensity, reflecting the degree of public health risk at various stages in the process, the reliability of the monitoring system, (and) the compliance history of the slaughterhouse or processing plant..."

FSIS has incorporated these recommendations into its development of Improved Processing Inspection. The five principal concepts forming the foundation of Improved Processing Inspection are:

* inspection resources should be allocated on the basis of potential risks inherent in a product or processing procedure;

* inspection resources should be allocated on the basis of plant performance in controlling production and preventing non-compliant product;

* inspection operations should utilize contemporary scientific principles and technology;

* documentation should be the basis for tracking plant performance in producing safe, wholesome, and properly labeled products, and for taking action when corrections are needed; and

* maximum use of randomization in the inspection system would enhance efficiency and effectiveness in obtaining information on plant performance.

Question: Do you have any communication from the NAS endorsing the proposed regulations? Would you please provide these for the record?

Answer: The Agency does not have any communication from NAS commenting on the proposed regulation, and we have not requested their endorsement.

Question: Do you have "rapid, specific and sensitive techniques to detect pathogenic microorganisms and deleterious chemicals in meat and poultry" as recommended by NAS?

Answer: The NAS report confirmed and encouraged continuation of a practice which FSIS has been pursuing for several years. We now have a number of such tests in use in the laboratory, in the plant, and on the farm, and we are investigating others; some tests have been in use for a decade or more. Major in-plant residue tests include the Swab Test on Premises, used to detect antibiotic residues since 1979; Calf Antibiotic and Sulfa Test, used for antibiotics and sulfa drugs in calves; and the Sulfa On-site Test, for sulfamethazine in swine, introduced last year.

Others include tests for staphylococcal presence in fermented sausages which give results in four hours, and have been in use in FSIS laboratories since the 1970's; a test for staphylococcal enterotoxin, seen in Japan by an FSIS employee and now sold in the U.S.; a test for *Yersinia enterocolitica* presence; and another counting; tests for the toxins of *E. coli*, *Clostridium perfringens*, and cholera, also obtained from Japan; a test for *Salmonella* identification, obtained from Australia and now sold in the U.S.; enzyme labeled immunoassay tests for botulism toxins, chloramphenicol, monensin, for *Salmonella* on poultry farms, for the identification of *Listeria monocytogenes*; DNA tests for the toxin of *E. Coli* 0157:H7, which causes hemorrhagic colitis, and another under development for rapid *Salmonella* detection; enzyme immunoassay card test for a variety of chemical residues; and the catalase enzyme test for improperly cooked beef, which indicates a potential public health risk.

Among the promising candidates for rapid test development are methods for the chemical residues of triazines, organophosphates, carbamates, chlorinated hydrocarbons, pyrethrins, aflatoxins, benzimidazoles, and antibiotics. Some of these are being worked on by ARS research groups.

Question: Is it appropriate to eliminate daily inspections before USDA has these tests in place?

Answer: New rapid tests will always be developed. It would be practical to implement inspection systems using the controls which are currently available and adequate to protect public health, and phase in the new rapid test procedures as they are perfected.

The proposed Improved Processing Inspection system uses information from inspector task performance, directed sampling, and Compliance Program investigations to determine plant compliance in addition to in-plant rapid method test results. The amount of information resources that the IPI system uses to accumulate plant compliance history is unequaled by any other inspection system, and the Agency is confident that inspection intensity can be determined, and program effectiveness maintained, using currently available information and procedures.

## IPI MICROBIOLOGICAL CONTAMINATION

Question: Would microbiological contamination increase if less than daily inspection is permitted at plants with questionable compliance records?

Answer: If the wholesomeness of product from a plant under reduced inspection were to decrease, the Agency would have the discretion to return to daily inspection, or, if necessary, go to intensified inspection until the problem is corrected.

Question: Will the new regulations lead to a reduction in foodborne illness?

Answer: It is the expectation of the Agency as well as of the National Academy of Science that the new procedures would lead to a reduction in foodborne illnesses. This would occur as a result of increasing the processor's responsibility for the wholesomeness of his product, increasing the Agency's authority for legal action against violators, increasing inspection coverage in high risk operations, and increasing the production controls in all plants.

Question: Do you have any evidence that the regulations will not lead to an increase in foodborne illness?

Answer: In order for a plant to qualify for less than continuous inspection, it would need to demonstrate that reliable process controls and quality control programs are in place. Such control gives our inspectors significantly better information on which to base their inspectional judgments. This has been our experience with recognized processing plants with excellent control programs for the past ten years and more.

As illustration, two groups of products have had past histories of repetitive foodborne illness outbreaks even though they were produced under continuous inspection: cooked roast beef and fermented sausage products. Changes and requirements in the products' processing were mandated by regulation or by the distribution of good manufacturing practices to the inspectors and the industry. Training programs were set up for inspectors to improve their knowledge of complicated production practices and microbiological risks. Finally, sample monitoring plans were prepared, both to support the inspector, and to provide a basis for regulatory action where necessary. By introducing processing science, investing in inspector training, and using analytical science, both of these former problem areas appear to have been corrected; both product groups have been free of foodborne outbreaks since about 1981. This experience demonstrates how a coordinated introduction of scientific procedures can work to the benefit of public health.

Question: What steps has FSIS taken to improve detection and prevention of microbiological contamination in meat and poultry plants, other than through the creation of the Advisory Committee on Microbiological Criteria?

Answer: FSIS conducts a number of monitoring and surveillance testing programs for microbial contamination. These programs are developed and initiated not only to determine the general microbial levels or content of both raw and ready to eat meat and poultry products, but also to examine these foods for particular pathogenic bacteria such as *Salmonella*, *Listeria monocytogenes*, and *Escherichia coli* 0157:H7.

FSIS is now involved in extensive sampling programs for a number of products, with an emphasis on ready to eat foods. The organisms of concern are *Salmonella* and *Listeria monocytogenes*. Our testing programs for these bacteria include domestic and imported cooked roast beef, sliced canned ham, cooked sausages, jerky, and cooked uncured poultry. Other products will be added to this list and will include meat and poultry patties. Analyses for other organisms of concern, such as emerging pathogens like *Escherichia coli* 0157:H7, will be intensified.

We are constantly evaluating, testing, and attempting to develop methods directly applicable to improving bacterial isolation and identification. Methods developed for identifying and isolating *Listeria monocytogenes* have been accepted and used on an international level and procedures for other pathogens are also being improved or initiated.

## QUESTIONS SUBMITTED BY SENATOR KERREY

### BUDGETARY IMPACT OF IPI

Question: Your testimony indicates a net reduction in costs are budgeted in Fiscal Year 1990 as a result of implementing the Improved Processing Inspection System. It would seem to me essential to continue control or backup systems throughout a change over to a new inspection system which would imply a cost increase rather than a net reduction. While I appreciate the basic premises of modernizing the inspection systems, I am concerned that public health and safety may be compromised under the pressure to meet budgetary constraints.

For example, your testimony says "Over time, we plan to upgrade our automated data support system to enhance the scientific and risk assessment bases for processing inspection." Is this not like putting the horse after the cart? Would it not be more appropriate to invest funds in upgrading support systems prior to reducing the inspection force and taking other budget saving measures?

Answer: We consider Improved Processing Inspection to be an evolutionary step in the development of a more scientifically based inspection system, not a sudden departure to an untried way of operating. In the 1970's, USDA was promoting partial quality control in processing plants, encouraging the industry to take better control of plant operations. In 1980, the Agency extended the idea by introducing voluntary total quality control for processing plants. At the same time, inspectors were trained in and became familiar with this orientation to inspection, which replaces sensory judgment with objective measurement. Quality control ushered in the concept of plans of inspection, which gave inspectors more control over their activities, and which was applied, after thorough testing, to all processing plants a few years ago. Last fall, the performance based inspection system focused inspectors' attention on possible trouble spots in their daily inspection rounds. Improved Processing Inspection builds on these proven methods, and complements them with more thorough documentation and data, comprehensive plant compliance histories, and specialized inspection teams.

The data system improvements needed to support the system have been under development and testing for several years. Last fall, the computer-generated scheduling of all processing inspection assignments was introduced nationwide. When regulations for the new system are promulgated, the necessary data support will be in place.

Most importantly, the improved system will be operated by inspectors and supervisors experienced in the traditional system and in all the gradual modifications that have enhanced the traditional system over the last ten years. The greatest departure in Improved Processing Inspection is the flexibility it gives the program to concentrate resources where most needed.

Question: Please explain what efforts are being made to install the data processing and personnel or management systems required to oversee the Improved Processing Inspection and other proposed changes in meat inspection systems?

Answer: Significant resources in headquarters and the field have been devoted to implementing Improved Processing Inspection. Each area office has been staffed with one additional management assistant and one additional processing inspection coordinator. To ensure inspection uniformity and maintain system integrity, two people in each regional office were assigned to coordinate and support the Performance Based Inspection System.

In headquarters, a significant amount of personnel and funding have been devoted to the development, enhancement, maintenance and support of the Performance Based Inspection System computer system. Beginning in July 1987, software development contracts were awarded for the programming of the system.

Training instruments were developed and delivered to inspectors and to area office and regional office personnel to provide them with the information required in the operation of the computer system.

Question: What type of research has been done or is being done in USDA to support potential changes in the meat and poultry inspection systems?

Answer: FSIS conducts no basic research; in USDA, ARS conducts research of interest to FSIS. The Inspection Service does, however, work hard to apply the results of research in the context of meat and poultry inspection. FSIS believes that inspection must evolve from a labor-intensive, organoleptic procedure to a more efficient, productive, highly scientific system. The most effective and cost-efficient way to inspect is to monitor critical control points of the process based on inherent risk and plant compliance, while developing and adopting contemporary technological tools for inspection.

Over the past decade, FSIS has incorporated principles learned from research in systems analysis, information resource management, and risk management into its pilot testing and implementation of processing inspection programs. These principles were first applied in the introduction of partial and total quality control processing inspection. Experience gained from these systems led to the development and implementation of the Inspection System Work Plan in processing inspection, which in turn has evolved into the Performance Based Inspection System.

Similarly, the application of quality control concepts in slaughter inspection has led to the introduction of the New Line Speed inspection system for young chickens, the New Turkey Inspection System, the Streamlined Inspection System for young chickens, and the planned implementation of similar systems in other classes of poultry, cattle, and swine.

A second area of research is the prominent issue of microbial control. A scientific consensus expressed in the two recent NAS reports confirms that species of *Salmonella* and other microorganisms are major causes of disease transmissible to humans through the consumption of meat and poultry products and that current post-mortem inspection procedures are inadequate to detect them. Since 1981, the control of *Salmonella* in domestic animals has been the Agency's first research priority. FSIS and other USDA agencies have undertaken or sponsored projects in the areas of livestock and poultry production, slaughtering and processing. and consumer education. Though *Salmonella* is a stubborn problem, current research conducted by universities, industry, and the government, plus improvements in processing and inspection, show promise of achieving dramatic reductions in pathogen contamination of meat and poultry products.

FSIS is now conducting research in applied microbial risk management at a poultry plant in Puerto Rico. We are focusing on the points in the production process where contamination, primarily from *Salmonella*, can occur, and are documenting the effects of various procedures and controls.

In addition, FSIS has requested ARS to undertake a reprocessing study at its poultry research center in Athens, Georgia. The protocol calls for collecting 500 samples--100 from each of five plants--and analyzing samples for enterobacteria, *Salmonella*, and *Escherichia coli* as well as determining the total microbial load. The study will take one year to complete. It will compare on-line birds passed by inspectors with birds removed from the line and reprocessed. The goal is to determine the present effectiveness of reprocessing, a procedure permitted since 1978 and based upon ARS research published in 1975.

## FISH INSPECTION

Question: There is a need for American consumers to be assured that their food is safe and wholesome. Seafood is a major source of potential contamination and yet there is no federal inspection system for seafood. I understand some parties are saying the Department of Agriculture is the appropriate place to locate a fish inspection program. What are your thoughts on the needs for a federal seafood inspection system?

Answer: Heightened consumer demand and the need to control chemical and microbiological hazards in the nation's food supply make it appropriate to introduce a comprehensive, mandatory seafood inspection system at the federal level.

Question: Should such a program be located in the Department of Agriculture?

Answer: USDA supports legislation calling for such a system to be carried out by the Department. We believe that the Department's experience with meat and poultry inspection would serve it well in administering a mandatory seafood inspection system.

Question: What would be your estimate of the resources needed to implement a fish inspection system?

Answer: Unfortunately, no model program has been designed at this time. Costs would vary greatly depending on the resolution of a number of issues. These include the level of inspection desired, who would pay, whether uniform safety standards could be established and enforced, the handling of imports, and the effect that seafood inspection would have on seafood consumption as well as the consumption of competing protein sources.

The completion of the congressionally authorized National Marine Fisheries Service model seafood surveillance program in late 1990 will provide a better foundation on which to base a cost analysis.

## RESPONSE TO EMERGENCIES

Question: With the recent publicity on chemical contaminants in food, I am interested in knowing the FSIS role in these events. What is FSIS's working relationship with FDA and EPA?

Answer: FSIS, FDA, and EPA have a good working relationship in matters relating to outbreaks of contamination due to pesticide or other chemical contamination incidents involving meat or poultry. In the event of an incident, the three agencies maintain contacts and conduct the necessary investigations to determine the extent of the contamination, and to plan actions to resolve the problem. This liaison is carried-out at both the Washington, D.C.,headquarters and the field levels for the duration of the project.

In particular, we work closely with FDA in controlling chemical contaminants in meat and poultry. One recent example is the installation of our Residue Violation Information System in 1988. This system is a computerized tracking mechanism for residue violators. It enables our Agency to concentrate our testing efforts in the plants on known violators and FDA to take action on repeat violators on the farm where contamination occurs. This system was effective in helping to track and control sulfamethazine violations in pork. It has also been a part of controlling illegal use of animal drugs, including chloramphenicol.

We have experienced great benefits by our cooperative efforts with FDA in advancing chemical contamination control. We will continue to explore avenues for working together where there are mutual benefits to be gained.

Question: Did FSIS have enough flexibility within its statutory and budget constraints to respond in a meaningful way to these recent outbreaks of contamination?

Answer: FSIS responsibilities are primarily in the inspection of the animals before and after slaughter at the Federal establishment, and through compliance reviews of federally inspected product in commercial channels. FSIS does not have authority to conduct investigations on the farm, or as in the recent outbreaks of contamination, at the feed mills supplying the animal feed to the livestock producer. FSIS depends on other agencies to conduct follow-up investigations when violative or near violative levels of pesticides are detected through our in-plant testing. Normally, FDA will conduct the investigations at the mills and farms identified as the source of the pesticide contamination. This arrangement generally works well.

Some emergency incidents require considerable testing by FSIS, placing a strain on the agency's resources. FSIS has managed to mobilize its resources in response to past emergencies, diverting resources from its normal testing and surveillance programs. However, the Agency would have difficulty responding to a series of emergencies of the magnitude of the incident encountered early this year, and in the recent past.

Question: What alternatives would FSIS suggest for the future to assure adequate responses to both perceived and real emergency situations?

Answer: FSIS believes that the Agency's response to contamination incidents are timely and appropriate, and we have no basic changes to suggest. However, FSIS must generally rely on trying to detect contamination problems after, not before, they occur. FSIS lacks the authority to require a producer to conduct testing of its feed and environment. Such testing helps prevent potential contamination incidents and gives an early warning in the event that a problem is arising. Cooperative, industry-sponsored testing of feed and environment, supported by enforcement actions against the misuse of agricultural chemicals, would go far to counter the need for recalls and emergency cleanup operations.

The Federal agencies involved in responding to contamination incidents should consider budgeting for these emergencies. This advanced planning can be done realistically on the basis of past operating histories of each agency. Considering the status of some substances as agricultural chemicals, and the enormous cost of contamination incidents to the government and industry, it is very probable that the cost for handling emergency situations will consume an increasingly larger percentage of our yearly budget. In recognition of this, FSIS will consider emergency funding methods in future budget requests to minimize the possible interruption of Agency activities caused by responding to contamination incidents.

## QUESTIONS SUBMITTED BY SENATOR COCHRAN

### OIG INVESTIGATION OF POULTRY SLAUGHTER INSPECTION

Question: Poultry slaughter has received a lot of criticism in recent years. I understand that USDA's Office of the Inspector General has recently completed a review of your agency's poultry slaughter procedures. What was the scope of this recent OIG examination?

Answer: The review covered FSIS' compliance with the revised pre-operational sanitation inspection and in-plant performance system procedures and the new Streamlined Inspection System for poultry, primarily in fiscal year 1988. It was conducted at FSIS headquarters; the Southeast Regional office in Atlanta; the Southwest Regional office in Dallas; the Review and Evaluation office in Lawrence, Kansas; and area offices located in Louisville, Kentucky, Jackson, Mississippi, and Austin, Texas. OIG also reviewed 14 selected SIS poultry slaughter plants.

Question: What were their findings?

Answer: OIG confirmed that FSIS had implemented the recommendations related to poultry inspection in their last report, "OIG National Audit of FSIS Meat and Poultry Inspection," (OIG Audit No. 38607-1-At), by revising pre-operational sanitation and in-plant performance system procedures. OIG's review indicated that equipment and facilities required by the Streamlined Inspection System were in place and operating properly and that the Agency's internal controls provided assurance that inspectional personnel either followed procedures or that their noncompliance was detected. The review disclosed no significant problems; therefore, no recommendations were made to FSIS.

Question: Is it possible for me to get a copy of that report?

Answer: A copy of OIG's March 21, 1988 Discussion Draft, along with the Agency's response, is enclosed. The Agency expects to receive OIG's final report shortly.

[The information follows:]

APR 6 1989

James R. Ebbitt
Assistant Inspector General
for Audit

Lester M. Crawford, DVM, PhD
Administrator

Lester M. Crawford

Evaluation of Compliance with Poultry Slaughter Inspection Procedures in Streamlined Inspection System Plants

Recently, members of the Agency met with OIG representatives to discuss the results of your review of the Food Safety and Inspection Service's (FSIS) compliance with the revised Pre-operational Sanitation Inspection (Pre-op) and In-Plant Performance System (IPPS) procedures and the new Streamlined Inspection System (SIS).

We were pleased to learn that your review confirmed that we had implemented the poultry inspection-related recommendations in your last report (OIG Audit No. 38607-1-At), titled OIG National Audit of FSIS Meat and Poultry Inspection, by revising Pre-op sanitation and IPPS procedures. Too, your review indicated that equipment and facilities required by SIS were in place and operating properly and that the Agency's internal controls provided assurance that inspection personnel either followed procedures or their noncompliance was detected. Part of the internal control process is the basic and special project reviews that the Review and Evaluation Staff conducts. Your evaluation of these internal controls disclosed no material weaknesses which credits the validity of these reviews.

In regard to the review at the poultry slaughter plants, we believe you now have a better understanding of how accomplished our inspectors are since you took the opportunity to work side-by-side going through the motions of inspection. You pointed out during the recent discussion that you checked the chillers at intervals throughout your review and were unable to find any fecal contamination or other unacceptable materials. In addition, we believe your comments that plant personnel generally observe pre-op sanitation requirements in a positive manner, in that the plant is ready to operate without delays in starting times, is truly a step in the right direction for both inspection and the industry.

We hope the above comments will be helpful to you as you prepare the final report on the subject audit.

cc:
W. Horne, MPIO
C. Seymour, TS
M. Glavin, R&E

4/4/89 4/4/89

RTP 4/5
Associate Administrator
Food Safety and Inspection Service

FSIS:OA:R&E:MFogle:447-2382:4/4/89

---

Date: MAR 2 [illegible] 1989

Reply to
Attn. of: 24608-4-At

Subject: Evaluation of Compliance With Poultry Slaughter Inspection Procedures in Streamlined Inspection System Plants

To: Lester M. Crawford
Administrator
Food Safety and Inspection Service

ATTN: Margaret O K'Glavin
Review and Evaluation Staff

Attached are three copies of the discussion draft report for the above survey audit. The draft report concludes that, for the areas reviewed, operations are being conducted as intended. Although the report contains no findings and recommendations, we will be contacting you to arrange for an exit conference to discuss the audit objectives, methodology and conclusions. If you have any questions, please have a member of your staff contact me at 447-7805.

Ed Krivus
ED KRIVUS, Director
Food, Consumer and Marketing
and Inspection Services Division

Attachments

Reply to
Attn. of: 24608-4-At

Subject: Evaluation of Compliance With Poultry Slaughter Inspection Procedures in Streamlined Inspection System Plants

To: Lester M. Crawford
Administrator
Food Safety and Inspection Service

ATTN.: Ronald J. Prucha
Associate Administrator

## INTRODUCTION AND SCOPE

This report presents the results of our review of the Food Safety and Inspection Service's (FSIS) compliance with the revised Pre-Operational Sanitation Inspection (Pre-Op Sanitation) and In-Plant Performance System (IPPS) procedures and the new Streamlined Inspection System (SIS). The review objectives were to:

- Determine the adequacy of corrective actions taken on conditions related to poultry slaughter inspection cited in our prior audit (Report No. 38607-1-At, September 1986);
- Determine if Pre-Op Sanitation, IPPS and SIS procedures were being followed by field staff;
- Determine if internal reviews were effective in preventing or detecting employee noncompliance with the new procedures; and
- Evaluate equipment operations and inspections related to Pre-Op Sanitation and SIS procedures.

The review, which primarily covered fiscal year (FY) 1988 operations, was conducted at the FSIS National Office; the Southeast Regional Office in Atlanta, Georgia; the Southwest Regional Office in Dallas, Texas; the Review and Evaluation (R&E) Staff Office in Lawrence, Kansas; and the Area Offices located in Louisville, Kentucky, Jackson, Mississippi, and Austin, Texas. We also visited and reviewed operations at 14 judgmentally selected SIS poultry slaughter plants, including 5 plants that were part of our prior audit. During the review we discussed the audit results with FSIS officials at the national, regional, area, circuit, and plant levels. We obtained from these officials interpretations of policies, explanations of technical issues, and supporting documentation and justifications for the inspection procedures reviewed.

Nationwide, FSIS inspects poultry slaughter in 177 plants under the New Eviscerating Line Speed (NELS) procedures, New Turkey Inspection (NTI) procedures, and SIS. These inspection systems were implemented in 1984, 1985, and 1986 respectively. About 91 percent of poultry is inspected under these systems. The other 9 percent is inspected under one of the traditional methods in plants not eligible for SIS or NELS or in plants with "one-of-a-kind" inspection systems. Of the 177 plants, 113 are inspected under the SIS. The number of slaughter plants by region and the number of SIS plants visited were:

| Region | No. of Plants Inspected By NELS | NTI | SIS | Totals | SIS Plants Visited |
|---|---|---|---|---|---|
| Southeastern | 23 | 6 | 65 | 94 | 10 |
| Southwestern | 9 | 3 | 22 | 34 | 2 |
| Northeastern | 5 | 2 | 17 | 24 | 2 |
| Western | 2 | 2 | 7 | 11 | |
| North Central | 2 | 10 | 2 | 14 | |
| Total | 41 | 23 | 113 | 177 | 14 |

The Pre-Op and IPPS procedures apply to all poultry plants regardless of inspection procedures.

At the FSIS National, Regional, and Area Offices, we evaluated the internal controls associated with the poultry slaughter inspection procedures reviewed. We reviewed the R&E staff's role in the internal control process related to poultry inspections, including the results of their basic and special project reviews. At the poultry slaughter plants, we reviewed, inspected, and/or observed:

- Plant facilities, equipment, and sanitation related to Pre-Op Sanitation and SIS inspection procedures;
- Poultry inspection presentation procedures and records, including documentation of line speed;
- Chilling operations, including pre-chill and post-chill inspections, moisture and temperature control, and water and chlorine usage records;
- The Pre-Op Sanitation Plan, Sanitation Reports, random sample selections, recordkeeping, and security;
- Pre-Op Sanitation inspections; and
- The circuit supervisors' compliance with internal control functions including their related IPPS review records.

The review was performed in accordance with generally accepted Government auditing standards.

## BACKGROUND

Our prior audit disclosed a higher number of deficiencies in large poultry slaughter plants than in large red meat plants. The primary problems identified were: (1) Inspection personnel had not performed Pre-Op Sanitation inspections in accordance with provisions of the former MPI Bulletin 83-13, Preoperational and Operational Sanitation Inspection, dated March 2, 1983; and (2) sanitation and structural deficiencies were not properly recorded, followed up on, and corrected.

## SUMMARY OF AUDIT RESULTS

Our review confirmed that FSIS had implemented the poultry inspection-related recommendations in our last report by revising Pre-Op Sanitation and IPPS procedures. Field employees at the plants visited generally complied with the Pre-Op Sanitation, IPPS, and SIS procedures. Equipment and facilities required by SIS were in place and operating properly, or corrective action was in process. In addition, we concluded that FSIS's internal controls over Pre-Op Sanitation and SIS procedures provided reasonable assurance that inspection personnel either followed procedures or their noncompliance was detected.

FSIS updated the Pre-Op Sanitation Program to strengthen basic requirements and obtain uniformity and accountability. The new Pre-Op Sanitation Directive 11,040.1, Preoperational and Operational Sanitation Inspection, dated May 1987, requires plant management to provide clean slaughter facilities and equipment before daily operations begin. FSIS statistically verifies and monitors the condition of slaughter facilities and equipment immediately prior to daily plant start-up. If plant and equipment are unacceptable, production is delayed until sanitation standards are met. The Pre-Op Sanitation inspections are performed by specifically trained FSIS employees.

FSIS revised the IPPS review system in FY 1986. The system now requires improved recordkeeping and followup procedures. The IPPS review assesses the performance of the Inspector-In-Charge or other supervisory employees in identifying and correcting plant deficiencies. The review, conducted monthly by the circuit supervisor, covers 1 of 11 critical control points related to plant facilities, operations, and sanitation. All control points are covered within a year.

In January 1986, FSIS implemented the SIS in poultry plants that were previously inspected under the Modified Traditional Inspection system. The SIS did not change the FSIS inspector's responsibility for inspecting each bird for disease and public health-related abnormalities, but it did transfer primary responsibility for detecting and correcting manufacturing defects to the plant. FSIS inspects and statistically monitors the plant's detection and correction of manufacturing defects. The SIS reduced the number of FSIS production line inspectors from three to two with the same line speed as the Modified Traditional Inspection system (maximum of 70 birds per minute or no more than 35 birds per minute per inspector).

The R&E staff conducts basic and special project reviews as part of the internal control process. Basic reviews are made within inspection circuits and include onsite plant inspections and evaluations. Overall, the circuits are evaluated on the same 11 critical control points covered by the IPPS review. Followup reviews are made to problem plants/circuits. Special project reviews are indepth examinations of special programs or management concerns not fully addressed by basic reviews. In FY 1988 and 1989, the R&E staff initiated reviews to assess FSIS plant personnel adherence to the Pre-Op Sanitation and SIS directives. The SIS special project report was issued in January 1988. That review covered 46 plants nationwide and concluded that, except for some facility requirements, SIS was operating in accordance with requirements and inspectors were satisfactorily performing their duties. The Pre-Op Sanitation project report was issued in February 1989. The review covered 63 plants nationwide and disclosed that FSIS inspectors generally complied with Pre-Op Sanitation requirements of Directive 11,040.1.

## COMPLIANCE WITH LAWS AND REGULATIONS

We found the items tested (implementation and employee compliance with Pre-Op Sanitation, IPPS, and SIS) at the sites visited to be in general compliance with laws, regulations, and procedures. Nothing came to our attention during the review that caused us to believe that untested items were not in compliance; however, our examination was not directed toward detecting noncompliance in untested areas.

## EVALUATION OF INTERNAL ADMINISTRATIVE CONTROLS

Our evaluation of internal controls was limited to an assessment of the basic and special project reviews performed by the agency's R&E staff and the internal control features of the IPPS. Our evaluation disclosed no material weaknesses in those controls.

## RECOMMENDATIONS

Since our review disclosed no significant problems, we are making no formal recommendations and no response to this report is necessary. We appreciate the cooperation and courtesies extended to us during the audit.

JAMES R. EBBITT
Assistant Inspector General
for Audit

## SAFETY OF IMPORTED FOODS

Question: A short time ago, the media and public attention concerning health issues surrounding the toxic residues found in Chilean grapes underscored the need to make sure that imported produce meet the same standards concerning pesticide residue required of U.S. produced agricultural products. The Chilean grape crisis raises once again the broader question of the safety of imported produce generally, and the U.S. consumers' ability to make an informed buying choice. In your opinion, should all imported produce be labeled as to the country of origin?

Answer: As you know, FDA has responsibility for assuring the safety of imported foods other than meat and poultry products, which are regulated by FSIS. Since the responsibility for the safety of imported products rests with FDA, they would be in the best position to comment on your questions. FSIS does, however, have considerable experience in the control of imported meat and poultry products, and we are pleased to offer information on our program and its policies.

USDA has reviewed the issue of country of origin labeling for imported meat and poultry products on several occasions, usually in response to legislative proposals in this area. Consistently it has been the policy of the Department that present regulations, which require country of origin labeling only when product is imported in a consumer package, are preferable to full country of origin labeling. Most of the meat imported into the U.S. undergoes further processing in USDA-inspected establishments. Once the imported product has passed our import reinspection, it moves freely in domestic commerce and is treated like domestically produced product. This has proven to be an effective and workable system for many years.

Question: What can you do to implement a more effective system of checking all imported produce for prohibited pesticide residue?

Answer: USDA's system of controls for imported meat and poultry products is different from FDA's system for other products. We accept product only from countries which we have determined to operate inspection systems like our own. Once a country is recognized as eligible to export to the U.S., its inspection officials are responsible for certifying to the U.S. those establishments which meet our requirements. When the establishment is producing product for export to the U.S., the inspection controls applied must be like those of the U.S. These inspection controls must include a residue program like that in the U.S. Further, the inspection service must certify that each shipment of meat and poultry products coming to the U.S. meets all of our requirements.

When product arrives in the U.S. it is reinspected on a sample basis at ports of entry. Sampling includes residue testing. FSIS does not, however, attempt to check 100% of products when they are imported. That would be both inefficient and ineffective. Since we hold countries responsible for performing inspections at the time of slaughter and processing, we spend our limited resources on monitoring their performance. When country performance seems unacceptable, we take action to limit the ability of the country to export to the U.S.

Question: What does Congress need to do to help in these efforts?

Answer: We believe that our present legislative authority and appropriation request are sufficient to meet our responsibilities in this area.

## BEEF/HORMONE BAN

Question: The EC hormone ban has been a difficult issue for the U.S. beef industry, as well as for U.S. Government officials involved with trade discussions. The major problem I see resulting from this issue is the loss in confidence American consumers may have with U.S. produced beef. Assuming our beef is safe, what can be done to assure Americans and other consumers that they will not suffer any negative impacts from eating it?

Answer: Independent review clearly supports FDA's approval of the five hormones as safe for use in food producing animals. Scientific evidence from a variety of sources also indicates that there is no danger to consumers from beef treated with FDA-approved hormone products. FSIS has helped to convey this information, and is continuing to do so, most immediately in the Food Safety Hotline.

Question: Are there any discernible differences between naturally occurring hormones and those being administered to U.S. beef cattle?

Answer: Two of the five FDA-approved drugs have discernible differences from naturally occurring hormones. Zeranol and trenbolone acetate contain the basic structural features of naturally occurring substances and are prepared by modifying specific structural features of the molecules.

The other three are natural hormones: estradiol-17-beta, progesterone, and testosterone, but they may be modified to enhance their efficacy in accordance with FDA approval. The modified natural hormones, however, are rapidly metabolized to the same chemical structure as the naturally occurring hormones and are indiscernible when tested in a biological or chemical assay.

FOREIGN MEAT

Question: In an audit of your agency in 1986 by the Office of Inspector General (OIG), primary concerns were raised regarding the lack of some exporting countries to ensure meat safety and the use of drugs banned in this country. I understand that the OIG, in a recent follow-up audit of the inspection program for imported meat, contained the same complaints. While the OIG report has not been released, can you comment on this issue? Is the general public at risk from consuming foreign produced meat and meat products?

Answer: Enclosed is a copy of the Agency's response to the recommendations contained in the report. There is no evidence in the report of any instances in which the public was at risk from imported meat and poultry products.

[The information requested follows:]

---

MAR 24 1989

SUBJECT: Import Audit

TO: Leon Snead, Acting Inspector General

THROUGH: Kenneth A. Gilles
Assistant Secretary
Marketing and Inspection Services

The enclosed revised FSIS response to your import audit is the result of a meeting called by Deputy Secretary Peter Meyers on this subject. During that meeting, he raised and we discussed three areas of the audit which he understood to be critical from your perspective. The three areas were: withdrawal periods for Carbadox and dimetridazole; the application of criteria for reviews leading to certification of country programs; and the Argentine export certificate system. We have made changes in our response to your recommendations on the first two items, reflecting certain additional actions which we are willing to take. We have not made any changes in our response to the third item as we do not agree with your analysis of the situation.

We noted that several errors remain in your text, such as suggesting that FSIS determines withdrawal periods. We believe that you should correct these items which have been mentioned to you previously.

Lester M. Crawford

Lester M. Crawford, DVM, PhD
Administrator

Enclosure

Leon Snead
Acting Inspector General

Lester M. Crawford, DVM, PhD
Administrator

Response to Follow-up Audit of Imported Meat Process

This is in response to your official draft dated February 28, 1989, of the subject audit. We appreciate the substantial revisions in the text based on our recent discussions. Although we cannot agree with all the recommendations, we hope there is an increased understanding of our import control program and how it operates.

RESPONSE TO RECOMMENDATIONS

Recommendations 1-5 concern residue controls in eligible exporting countries. Before addressing each recommendation individually, it is advisable to review several important issues which affect our program.

- Our standard of acceptability is equivalence with the U.S. inspection system; this means that controls and practices do not have to be identical to those in the United States if they achieve the same results. Residue control is a dynamic field, both in the United States and in other countries. Applicability of the principle of equivalence in this complex area requires continuous careful judgment.

- Our method of review is to use technical experts familiar with the U.S. system and trained in the disciplines which support that system. We rely on their professional expertise and apply scientific principles in the legal and trade policy context in which we operate.

- There is a substantial variation among the countries eligible to export to the United States and in the types of meat and poultry products they supply. This significant variation means that broad policy and procedural requirements need to be interpreted and adjusted to the situation in each country. All eligible exporting countries meet our requirements, although there may be variation in exactly how they do so.

- Our authority is interpreted to cover only product exported to the U.S. which is usually a small segment of product produced in the origin country. We have no broad authority over livestock production and meat or poultry processing in another sovereign nation.

We believe that our controls are operating effectively in the residue area. As a simple indicator we would point out that in 1987 there were 19,119 samples of imported product analyzed for residues at port of entry (POE); there were only 25 violations.

1. "Take immediate and appropriate action to ensure that Country E complies with the FSIS requirement to test for chloramphenicol, and that Countries C and E test for species. Also, resolve the differences between U.S. and foreign countries' withdrawal period for Dimetridazole and Carbadox. (See Details 1a and 1b.)"

FSIS has taken action which is appropriate to the findings reported. Country E is testing for chloramphenicol and for species in cooked product. Country C has made plans to implement testing for species in cooked product; it continues its testing for species in raw product. It is important to understand the genesis of these requirements when evaluating the significance of deficiencies noted.

FSIS requirements concerning the compound chloramphenicol (CAP) were instituted at the time that the U.S. Food and Drug Administration (FDA) took strict enforcement measures to end extra-label use of the compound in the United States. These actions were based on new scientific information which indicated that CAP use in food producing animals could present serious public health risks. At that time, FSIS required countries to report on the regulatory status of the compound in their country and to begin testing using the most sensitive analytical method available. The testing requirement was imposed even though it was known that methods for CAP analysis are of limited use in detecting some metabolites. FSIS believed that a CAP testing requirement would have the effect of enhancing country awareness of the use of this compound and could provide a basis for actions to end use.

FSIS knows that Country E has a system for control of CAP which is equal to that in the United States. Country E prohibited the use of chloramphenicol in food producing animals in 1978. The drug is only available by prescription from licensed veterinarians for non-food animal use. Country E does not permit extra label use of drugs. The government agency responsible for animal health and meat inspection is also responsible for licensing of veterinarians. Any misuse of drugs by a veterinarian results in suspension of the veterinarian's license. Country E has the ability to traceback any animal found to contain residues.

When FSIS notified all countries that testing was required, Country E officials believed that their control procedures negated the need for testing. FSIS informed officials that some testing would still be necessary. Testing has been implemented in Country E. In addition, product from Country E has been regularly sampled for CAP at POE: 85 samples were analyzed in 1987. No violations were found.

Species testing requirements have a different background. Species controls were reinstituted in the U.S. import and domestic programs following a serious species substitution incident in imported product in the early 1980's. At that time, FSIS established criteria which would permit a country to accomplish controls through separation, security and a capability to test. Routine testing was required on raw product in all countries where such conditions of separation and security did not exist. Both Countries C and E have acceptable raw product species testing programs in place.

Technological developments now permit species testing in cooked product. At the time of the audit, countries had been recently notified of that capability, its implementation in the domestic program, and the need to modify their practices. For both Countries C and E the new technology meant a change in the point at which species testing was to occur, not the need to implement a new type of control. Country E has made the change; Country C is planning to do so.

The audit report suggests that FSIS take action when countries have different withdrawal periods from those of the U.S. for certain compounds. Withdrawal periods are part of the controls which countries apply as they make decisions on the use of animal drugs. As such, these withdrawal periods are a reflection of the scientific reviews of the approving country and its public health concerns. FSIS has no authority over the scientific and regulatory decisions of other sovereign nations. Fortunately, there is no need for such authority. Product exported to the United States must meet U.S. tolerances, whether compounds permitted have exactly the same or differing withdrawal periods or other conditions of use.

Carbadox is approved for use in the United States. Country D, which also approves its use, has a different withdrawal period. Country D also includes Carbadox in its residue testing program and has conducted 600 tests per year for several years. The violation rate last year was 1 percent. POE testing for Carbadox included 84 samples from Country D in 1987. There were no violations.

In the United States, determinations about withdrawal periods or other conditions of use are made by the Food and Drug Administration (FDA). There is now a working group of FDA officials and their Country D counterparts; the group is attempting to harmonize the two countries' procedures and policies in the field of animal drug approvals. FSIS has written to the relevant FDA officials and requested that the group consider the significance of the differences between the two countries' withdrawal periods for Carbadox.

The case of dimetridazole (DMZ) is problematic. The compound is no longer approved in the United States; there is not an acceptable method to detect its presence in meat. At the time that the FDA was initiating the process on DMZ, FSIS notified all countries of this fact and requested information about the regulatory status and use pattern of the compound in each country.

FSIS believes the best course of action on dimetridazole is to await a decision from the Codex Joint Expert Committee on Food Additives which is reviewing the compound. A decision is expected in 1989. FSIS will followup on its previous message to countries about this compound.

2. "Define criteria for residue certification of countries and apply that criteria in the certification process. Centrally maintain appropriate documentation. Provide a schedule for reviewing responses to the residue control questionnaire sent in July 1987."

Each year since implementation of the 1981 Farm Bill, FSIS has used a set of defined criteria to evaluate each exporting country's residue program. These criteria have been and will continue to be based on recommendations from a team of technical experts that represent the fields of residue chemistry, microbiology, statistics, pharmacology, epidemiology, toxicology, and other needed specialties.

We determined that in 1988, the residue certifications would be granted to those countries which, in addition to having plants certified and being recently reviewed by FSIS experts, have responded to the questionnaire and evidenced a satisfactory program. In 1988, application of the criteria had the following results: 9 countries did not receive certification and therefore cannot ship product to the United States unless and until residue requirements are met; 23 countries received certification; 8 countries received a conditional certification pending the outcome of a special review. As of this date, 1 of these has successfully completed the review process.

The development of residue control programs is a dynamic field. The criteria that FSIS has used to determine the equivalence of countries' residue programs have been established in this context. It can be expected that criteria will continue to change as knowledge and expertise become available and are applied to analysis and control of residue problems.

Records which FSIS uses to document country certifications are available in FSIS, IP, Washington, DC. However, material is organized in a manner that is useful to the program.

In July 1987, we sent a new residue questionnaire to all countries, reflecting the additional information we considered essential to a more thorough review of a country's residue control program. Responses began arriving late in 1987 and are continuing to arrive. To date, we have received packages responding to the questionnaire from 34 countries and have reviewed them in turn.

3. "Ensure that foreign country residue plans address drugs which are either not approved or have not been presented for approval for use in the United States. Such plans should establish rationale for including or excluding the drug from residue testing. (See Detail 1b.)"

Presently, FSIS requires countries to test for a list of compounds generally regarded by the scientific community as those of concern and of potential high risk. These compounds include: chlorinated hydrocarbons, organophosphates, PCB's, certain trace elements, antibiotics, sulfonamides, DES, and chloramphenicol. Many countries test for additional compounds that their officials believe are of potential risk in their country.

Since these FSIS testing requirements were put in place, many foreign inspection officials have requested relief, arguing that certain compounds did not pose any control problems in their countries. Residue analyses conducted in countries and at POE have largely supported this point. Further, FSIS is sympathetic to the idea that countries should be more responsible for determining their residue testing priorities. However, the Agency did not have adequate data to review country decision-making in this area.

FSIS has implemented an enhanced data collection and expert review system to gather broader information on compound use practices. This would permit us to review country decisions on which compounds are included in their testing programs each year. The process began with the transmittal to all eligible countries in July 1987, of a new and more comprehensive questionnaire on residue controls. The ~~new~~ questionnaire sought information on compounds approved for use and the conditions of their use.

Based on experience to date, we know that the analysis of the information contained in the chemical and drug lists is not simple or clear cut. It will require considerable expert study. We anticipate this aspect of country residue control programs will take at least five years to complete. In the meantime, FSIS will continue to confer with the FDA and the Environmental Protection Agency (EPA) and act upon information from these agencies as well as recommendations from the Codex concerning compounds of public health significance.

4. "Ensure that the foreign test methodologies and management procedures discussed in Detail 1 for Countries B, C, and E, as well as for all eligible countries are at least equal to those used in the United States. (See Detail 1.)"

FSIS has been reviewing test methodologies in certified countries since 1982 to assure methods in use are at least equal to those used in the United States. FSIS chemists, microbiologists, and other technical experts have determined the criteria that must be met and the control points that must be reviewed. Approval of test methodology is based to a large degree on recoveries, lowest detectable limits, minimum reportable levels, and check sample results. These control points are checked on every laboratory review conducted by an FPO or an FSIS chemist. When reviews are conducted by FPOs, recording graphs and other technical information is brought back for review by FSIS chemists or microbiologists.

Test methods are constantly being refined. When FSIS develops new methodologies to improve detection limits or reliability of results, the information is communicated to foreign countries. Some time is usually required to implement a new method.

The audit suggests that Country B needs to homogenize the whole liver in order to have an equal to method for sulfa analyses. The methodology used by Country B to prepare samples for sulfonamide analysis is the same as that used in the United States. FSIS chemists have determined that homogenizing a portion of the liver (1-pound) produces comparable results to homogenizing the whole liver.

The audit states that Country E does not attempt to quantify antibiotic residue results. FSIS does not require countries to quantify detected residues if appropriate action is taken to control residues when any amount is detected. This is the case in Country E. In this country, meat which, on analysis, shows the presence of any antibiotics, is removed from consumption channels.

FSIS technical experts have accepted the "4 plate method" for antibiotics, and have accepted the procedures used in Country E based on laboratory and data reviews. However, during 1988, FSIS notified Country E that the "4 plate method" was no longer acceptable for sulfonamide testing. An acceptable method has been implemented.

The audit describes the pooling of fat samples tested for organochlorides in Country C. Country C uses two separate programs for detecting organochlorides in beef exported to the United States. The first is the analysis of 10 pooled samples on each lot of animals presented for slaughter (conducted by the plant laboratory). The second is the analysis of randomly selected samples from individual animals that is conducted by the government laboratories. To facilitate the pooling procedures, the plant keeps detailed records of organochloride residue levels by farm of origin. Each lot of animals is identified by farm. Because of the extensive historical information that is available as well as identification of lots by farm, the 10 sample pooling is acceptable. The monitoring program conducted by Country C's national meat inspection program confirms the satisfactory operation of the plants' more intensive testing programs.

The audit suggests that country laboratory programs are deficient because not all use a standards book like that used in the United States. The use of signed standards books is not the only acceptable method of documenting a quality assurance program. Standards books are used in the United States because of unique legal requirements here. Other countries use other equally good systems that are accepted by FSIS quality assurance chemists.

5. "Ensure that Country C provides FSIS with a list of approved animal drugs immediately for appropriate FSIS review and action. (See Detail 1b.)"

Country C has supplied such a list. FSIS will use it in the manner we have described.

6. "Distribute the audit report to all countries eligible to export meat and poultry products to the United States and advise foreign countries that they need to ensure that the laws and regulations governing their meat inspection system are effectively enforced. (See Details 1 and 2.)"

FSIS will distribute this report to all eligible countries. FSIS will remind countries of their legal obligations with respect to U.S. destined exports.

Recommendations 7 and 8 address certificate controls in eligible exporting countries. It is a subject which was addressed and recommendations resolved in the previous audit. It also was the subject of attention during this review. No evidence was found that product was inappropriately certified for export to the United States or that such product had arrived in the United States and been incorrectly passed for entry.

In addressing these recommendations, it is important to understand certificate controls in foreign countries and FSIS requirements relative to those controls. All countries develop export certificate control systems that are efficient and effective in the context of their organization. FSIS's own export system has evolved over time and is presently undergoing major modifications. Through all its modifications, the FSIS system has included critical features to assure appropriate inspection of product and product integrity.

Other countries have different systems which are appropriate for their organizational and administrative structures. Yet all these systems have key features which can be identified and which together assure effective functioning.

The audit suggests that country systems are flawed because accounting procedures are not fully applied. When FSIS requires accountability it does not mean a country must use a system of strict accounting principles. However, it does mean that a country must have a procedure to identify authentic certificates, that the procedure must be capable of being monitored for breeches of security, and that the procedure is such that FSIS can identify authentic certificates when they are presented at POE. Those conditions now prevail in all eligible exporting countries.

7. "Followup with Country C officials to ensure that there are appropriate controls over U.S. export certificates. Perform a detailed review of all issued certificates to determine if Country C has full accountability over U.S. exports, and follow up on the outstanding certificate referenced in the details of the finding. (See Detail 2a.)"

Country C has a complex system to permit reconciling certificates in the country. Country C officials account for every certificate in every book although there is a time lag; reproduction of the multi-colored lined certificates would be difficult, and, as a critical control Country C uses official country seal stamps to authenticate certificates. These stamps are kept under security; the presence of this official mark on Country C certificates is used by U.S. POE inspectors to determine validity. If such a mark were not present, the certificate would not be accepted. The certificate mentioned in the audit was accounted for when Country C officials notified FSIS that it had been annulled.

8. "Require that Country E modify its system to include appropriate controls for all export certificates and official stamps issued for use at export establishments. (See Detail 2b.)"

The critical control procedure for authenticating certificates in Country E is the veterinary control stamp. These stamps are maintained under security. FSIS does not believe there was a breech of security as described by the audit.

Two veterinary control stamps were assigned to the establishment, one to the veterinarian and one to the senior inspector. The veterinarian had moved his stamp to the office of the senior inspector for convenience. The senior inspector's office is within the physical area of the establishment controlled by the inspection service, i.e., what we would call the government office in a USDA inspected establishment.

Both the veterinarian and the senior inspector maintained inventory records. The record of the senior inspector did not reflect that the veterinarian had given him his seal and that it was secured in the same place as the seal of the senior inspector. However, the inventory record in the veterinarian's office reflected the fact that there was a veterinary control stamp assigned to him. Thus, taken together, inventory records accurately reflected the number of veterinary control stamps assigned to the establishment, although they did not reflect their location within the government office.

The audit reports that the national inspection office in Country E did not maintain records of stamps that were issued or destroyed. The FSIS national office does not maintain these records either. Thus, we do not require it of other countries.

The audit indicates that the use of container seals to control certificates is unsatisfactory because not all containers are sealed and more than one certificate can be issued with the same seal number if different product is loaded in the same container. For this reason and because FSIS import inspectors do not now see container seals, FSIS does not use container seals as a procedure for determining authentic certificates.

Based on these facts, FSIS will not impose additional requirements on Country E in this area. Such additional requirements could be construed as non-tariff barriers.

Recommendations 9-12 also deal with other issues addressed in the previous audit. It is useful to review the existing controls on imported product once it arrives in the United States. All products entering the U.S. from other countries are under the control of the U.S. Customs Service. In the case of meat products, Customs regulations permit physical entry into, movement through, and even out of the United States without attention by FSIS. Under present regulations, it is only when such meat and poultry products are to be legally entered into U.S. commerce that FSIS reinspection is required as a necessary condition preceding such entry. Thus, it is the U.S. Customs Service, not FSIS, which has information about all arriving meat products and their location.

The recommendations made in this report are quite similar to some made in the previous audit. FSIS responded to those recommendations, they were resolved in July 1987, and the audit was closed in December 1987.

During the period since the last audit, FSIS initiated the activity which OIG auditors accepted as the first step in changing the situation. FSIS proposed a rule which would require meat products destined for U.S. consumption to be presented to FSIS for public health reinspection at the port where they were physically unloaded. Subsequent movement could then proceed without there being any concern that the products did not meet U.S. requirements. In this way, the time period during which unrestricted movement of U.S. destined product could occur would be minimized. In resolving the previous audit, FSIS made it clear that any other programmatic changes were contingent on completion of this rulemaking because it would necessitate a redesign of present procedures.

FSIS proposed the rule; the proposal encountered negative comments from the import industry and continuing Congressional representations on behalf of importers. After an extended comment period, FSIS has proceeded with a review and analysis of comments and will continue with appropriate rulemaking in this area.

9. "Follow-up on the 314 cases of frozen boneless beef to ensure that they are not entered into U.S. consumption channels without FSIS inspection. (See Detail 3a.)"

The 314 cases are physically located in a Customs warehouse. Thus, the owner is in full compliance with present regulations governing this product. Customs regulations permit its physical location in a bonded warehouse for an unspecified period of time.

FSIS has procedures in place which would prevent the entry into U.S. commerce of this product. This is because all meat product presented for entry must be accompanied by a health certificate issued by the inspection officials in the exporting country.

FSIS POE personnel have been instructed not to accept any certificate from Country B that was issued prior to May 25, 1987, unless that certificate is on the list of acceptable representing product which has cleared an additional residue testing protocol agreed to by the United States and Country B. The list of acceptable certificates is located in the Automated Import Information System data base for rapid access. Since the testing program necessary for certificates to become acceptable was discontinued at the end of 1987, no additional health certificates will be added to the acceptable list. In effect, the existing certificate for the 314 cartons is void.

If the product were presented to an FSIS inspector, the import field office (IFO) would call the Import Inspection Division's Washington office for instructions. The list of acceptable health certificates would be checked; the health certificate for this product would not be found, and the product would be refused entry. At that point FSIS refused entry procedures would assure its destruction or timely movement out of the country.

10. "Incorporate a system upon completion of rulemaking to ensure that FSIS is aware of all shipments of meat products into the U.S. and whether those meat products are reinspected by FSIS for entry into U.S. commerce. (See Detail 3a.)"

As we have explained above and in response to recommendations of the previous audit, changes in program procedures will be dependent on details of the final regulation. We are not, however, anticipating any expansion of our authority to deal with product not intended for U.S. consumption.

11. "Consider establishing penalties upon completion of rulemaking for import brokers who fail to follow procedures established by FSIS. (See Detail 3a.)"

There is no demonstrated need for new penalties under the present system. If new procedures are implemented as a result of rulemaking, the question of enforcement will be given careful attention.

12. "Continue to coordinate efforts between FSIS and U.S. customs to develop a program or process which would enable them to identify and follow-up on discrepancies for imported meat product. (See Detail 3b.)"

The Program Development Division is not attempting to reconcile differences in data base reports. The discrepancies which we encountered when we reviewed a single representative time period were noted and referred to OIG for consideration. We indicated that we were unable to pursue the matter. That is still the case. Given the division of jurisdiction between Customs, APHIS and FSIS and our specific public health mandate, we do not consider this an area we can pursue given scarce resources and its limited usefulness to our mission.

## HEPTACHLOR CONTAMINATION

Question: At the end of last year (1988), you found another heptachlor residue problem in chickens. Several years ago there was an outbreak of heptachlor contamination in the same part of the country. Was there any relation between the two incidents?

Answer: There is a relationship between the two incidents in that both involved the misuse of pesticide treated seed grain, and the contaminant involved in both instances was the pesticide heptachlor. In the 1985 incident, an operator of a gasohol plant sold mash manufactured from treated seed grain. The contamination spread through dairy herds and eventually was detected in humans. In the most recent case, of January 1989, pesticide treated seed grain was considered as the contaminant in poultry feed used by a large integrated operation. The agencies involved with both incidents had to provide considerable resources in bringing the situations under control.

Question: In the recent incident, what containment procedures did you follow and with what success?

Answer: The January 1989 incident involved contamination of the poultry flocks from a single integrated operation in Arkansas. The source of the contamination was traced to the poultry feed supplied to the integrated operation, and the contaminant was the pesticide heptachlor and was introduced by pesticide treated seed grain. FSIS actions in the incident included restricting slaughter until a program for testing the birds was placed in effect. Also, product on hand at the establishment and in cold storage was placed under retention until a testing program was conducted to determine its acceptability. Several million pounds were retained. The scope of the actions included: (1) recalling product; (2) pretesting flocks on the farms prior to slaughter;(3) testing flocks at slaughter after passing pretesting on the farm; (4) testing product in freezer storage; (5) area surveillance sampling of poultry and livestock; and (6) separate surveillance sampling on producers receiving feed from the same source. Some contamination in other species has been found. As a result, more surveillance is being developed to further identify potential areas of contamination.

Coordination of the various actions was accomplished by the Washington, D.C., headquarters with the Regional and Arkansas area offices. The logistics of maintaining a testing program were conducted efficiently, and cooperation between FDA and FSIS continues. We consider the efforts as being successful.

Question: How can you and the industry prevent such incidents from happening in the future?

Answer: Cooperation is needed between the government agencies, the state agencies, and the allied industry to reduce the likelihood of such incidents happening in the future. The animal feed industry could play an important role in influencing its members to prevent the inadvertent or illegal use of pesticide treated seed grains in animal feed. Cooperative efforts are needed to enforce the prohibitions that now exist against the misuse of the treated grain in animal feed. FSIS is in the process of initiating actions to bring together the various government agencies in a campaign to identify operators who are contaminating animal feed.

## SULFAMETHAZINE RESIDUES

Question: FSIS has been struggling with a problem of residue of sulfa drugs in hogs since the mid- 1970's. Last year, you introduced an in-plant testing program for sulfa residue. Will this solve the problem?

Answer: In order to reduce and eliminate sulfamethazine violations, a variety of interdependent forces will need to work together. The Sulfa On-site Test is one of these. SOS plays the part of identifying potentially contaminated carcasses in the plant, and thus bringing about conscious efforts to remedy the situation. From its introduction in April, 1988, through March of this year, there were over 103,000 SOS tests performed with only 432 violations. A definite decrease in the violation rate was observed over the nine-month period. For 1988 as a whole, the monitoring program showed a swine-sulfa violation rate of 1.6 percent, compared with 3.8 percent in 1987.

Before the use of SOS in the plant, concern about the sulfamethazine residue problem varied among producers, industry, and educators. Now, with the use of the test, all parties are striving to control the residue. The problem will, of course, need continuing attention by regulators and producers. It may be necessary to expand SOS testing to maintain control over the problem.

## RAPID TESTS

Question: Is FSIS ready to introduce other quick testing methods into slaughter plants?

Answer: An in-plant test to detect chloramphenicol in bob veal calves is scheduled for introduction in fiscal year 1989. An in-plant program to detect antibiotic residues in formula-fed veal calves will probably be introduced during FY 1990. Other tests for residues and pathogens are under development.

Question: Will there be any on-site rapid tests for microbiological contamination?

Answer: Though not intended for slaughter plant use, a test for the presence of *Salmonella* bacteria, intended to be applied to litter and other environmental samples on the farm, has been developed and is suitable for use by integrated poultry operations. Some of the methods being examined by the agency may be adaptable to on-site use, such as various enzyme-labeled immunoassay tests. Much research still needs to be done in this area.

## MEAT SAFETY RESEARCH

Question: Given the Department's proposed 1990 budget, can you indicate where USDA has undertaken additional research into the meat and poultry inspection system to supplement the inspectors' decisionmaking?

Answer: FSIS works closely with the Agricultural research Service and other agencies to identify high priority food safety and quality research that could help meat and poultry inspection to evolve from a set of judgments to a public health science. We have undertaken a number of research initiatives with ARS to improve the safety and wholesomeness of the nations's meat and poultry supply. Each year, we identify for ARS the research areas which support our regulatory activities and facilitate the use of methodologies usable in the inspection program. ARS' commitment to meet our Agency's priority research needs enhances the Agency's scientific and public credibility and provides the technical base for sophisticated policy analysis.

ARS scientists are now working on 24 cosponsored projects for FSIS. Of this number, 10 deal with microbial food safety issues. The others deal with innovative technologies to improve inspection operations and procedures. *Salmonella* control is FSIS' first research priority, as it has been since 1981. Other pathogens, such as *Escherichia coli*, *Yersinia enterocolitica*, and *Listeria monocytogenes* now share that priority. Their public health significance has only recently been recognized.

In the area of innovative technology for use in inspection, there is a project underway for the use of ultrasound to detect disease lesions in beef and pork livers. A serological system is being developed to provide a rapid, sensitive method for the detection of beef carcasses bearing cysts of the tapeworm *Taenia saginata*. A serological test is under development which would enable the simultaneous screening of swine for antibodies against *Trichinella spiralis* and *Toxoplasma gondii*.

Question: Is there good communication and cooperation between your agency and the research agencies at the Department to insure the type of research that needs to be done in the area of meat and poultry inspection is indeed being undertaken?

Answer: Yes. There is a formal working arrangement, a structure under which cooperation is furthered and communication between ARS and FSIS scientists enhanced. A Memorandum of Understanding, signed by the two Agencies' Administrators, declares this arrangement.

The agreement sets up a schedule for FSIS to provide ARS with information on the Agency's research needs, and for FSIS and ARS to meet yearly to discuss those needs, to set priorities, and to review research in progress. The agreement also provides for technical workshops and seminars to be conducted as needed.

## IMPROVED PROCESSING INSPECTION (IPI)

Question: Dr. Crawford, is the current inspection workforce adequately trained to handle a more scientific risk-based system -- how is the Department retraining its current supervisory and inspection personnel to handle the new Improved Processing Inspection system?

Answer: The proposed Improved Processing Inspection system is part of the Agency's overall modernization program. Upgrading the knowledge and skills of our inspection workforce is also part of this modernization program. All supervisors and inspectors associated with the inspection of meat and poultry processing operations have received processing operations training necessary to implement the current Performance Based Inspection System. In order to prepare our workforce to meet the scientific and technical challenges of the future, the agency_has taken the following steps:

* The Agency has moved its training center to Texas A&M University to provide a scientifically sound curriculum in accordance with the National Academy of Sciences recommendation.

* The Agency has developed a curriculum on "QC Concepts and Inspection of Total Quality Control Programs and Systems." Specific subjects included in the curriculum include quality control concepts, concepts of process variation, statistical control, microbiology as it relates to the production of meat and poultry products, chemistry as it relates to the production of meat and poultry products, physical and chemical composition of raw meat materials, and analytical laboratory procedures. Recently, Hazard Analysis of Critical Control Point principles have been incorporated into the QC concepts and microbiological modules. One fourth of the Agency's processing inspectors and supervisory workforce has completed this course. Plans are developed to have all processing inspectors complete this curriculum in the near future.

* The Agency in 1984 initiated the process of including food technologists into the workforce. There are now 150 Food Technologist performing or supervising inspection. More than half of these positions have been filled by our own inspectors who have completed the necessary college-level course work to qualify as food technologists. FSIS has supported this training by reimbursing inspectors who choose this direction. Food technologists are an important addition to our professional staff of veterinarians, food inspectors, and food scientists.

As part of its modernization program, the Agency will build an inspection workforce and support staff with strong foundations in the disciplines of veterinary food hygiene, food science, food processing, microbiology, food chemistry, hazard analysis, and statistics.

Question: What are the types of problems FSIS has encountered in trying to automate its inspection program?

Answer: The biggest difficulty in the automation of Improved Processing Inspection has been in discovering what weight to give the various factors in the systems's "definition" of processing inspection. We will give two examples of this type of problem:

In the Chicago pilot test, an excessive number of locker inspection tasks were scheduled. To correct this situation, a relative weight to ensure that tasks were selected in the proper frequency.

In Raleigh, we found that inspector resources were not always located where the work existed. Based upon that experience, a set of risk tables were established for each inspection task. This ensured that, when inspector shortages require inspection activities to be reduced, the least critical tasks were foregone. Conversely, when there are excess inspector resources, inspectors are given additional work to perform based upon the relative importance of the applicable tasks in the inspector's assigned plants.

Both of these examples demonstrate how the computer system schedules inspectors and plant inspection based upon the inherent relative risk of different inspection activities. This is the heart of the system--a risk-based inspection system allocating resources in the most efficient manner possible.

A secondary problem has been the need to provide our personnel with the tools to use the new equipment and software. The Agency has made significant efforts to train its field force and area office personnel in the proper use of the computers.

Finally, the system has experienced sporadic data errors caused by an unidentified interaction of the hardware and/or various software packages. Many steps have been taken to reduce this impact in the short term and work is underway to eliminate the problem.

Question: How long will it be before the FSIS computer system will be considered reliable enough to handle the data being generated under the new Performance Based Inspection System?

Answer: The system is reliable for scheduling inspectors and collecting the results of inspection activities. The system is in operation in 16 areas. The remaining areas will be phased in by May 15, 1989.

The Performance Based Inspection System computer system would collect, analyze and adjust inspection intensity based on over ten million inspection observations each year. We consider this to be a significant achievement and feel confident that this would allow the Agency to improve inspection through documented plant performance.

## QUESTIONS SUBMITTED BY SENATOR MCCLURE

### ALDICARB

Mr. Chairman, I have only two questions for Mr. Crawford of the Food Safety and Inspection Service. Mr. Crawford, you have no doubt been briefed on the current aldicarb scare. The potato growers of Idaho are very concerned that the leaked information from the EPA not cause irreparable damage to the 1988-89 potato crop. Does FSIS have any method of testing potatoes and potato products which could be used to test these products for aldicarb residues on a large scale? Could this data then be released to the general public showing how safe potatoes and potato products are?

Answer: FSIS' regulatory area extends only to meat and poultry products; the Food and Drug Administration controls other food products, including potatoes.

## AGRICULTURAL MARKETING SERVICE

## QUESTIONS SUBMITTED BY SENATOR BURDICK

### SUNFLOWER AND COTTONSEED OIL

Question: The AMS budget eliminates the 1989 program to improve international markets for sunflower and cottonseed oil by granting authority to purchase $20,000,000 of these oils. To date, what volume and value of sunflower and cottonseed oil have been purchased? Do you have estimates of purchases through the end of this fiscal year for each oil?

Answer: To date, there has been no purchase or estimates of purchases for sunflower and cottonseed oil from the $20 million provided by the 1989 Agriculture, Rural Development, and Related Agencies Appropriation Act. This program is authorized for two years and will run through September 30, 1990. However, as a result of $10 million authorized for sunflower seed and cottonseed oil in the 1988 Agriculture, Rural Development, and Related Agencies Appropriation Act, the Foreign Agricultural Service recently completed the sale of 20,000 metric tons of U.S. sunflower seed oil to Egypt. In addition, a second initiative to sell Egypt an additional 40,000 metric tons has been announced. The bonus payments for these sales should approach $10 million.

AMS's role in purchasing these oils was to provide the funding for this program to the Agricultural Stabilization and Conservation Service (ASCS) who handles the sales transactions for the Foreign Agricultural Service (FAS). AMS has transferred the $20 million as authorized by the 1989 Agriculture, Rural Development, and Related Agencies Appropriation Act for the purchases to ASCS. FAS is currently drafting procedures for the required purchases.

### LEGISLATIVE PROPOSALS

Question: Mr. Boyle, you recommend user fees on a variety of proposals. Have your legislative proposals been submitted yet?

Answer: Yes, the legislative proposals for marketing agreements and orders, including the economic analysis work carried out under our market development and assistance program, were transmitted to Congress on March 15. The legislative proposals recommending user fees for standards and tobacco market news were transmitted to Congress March 28.

### MARKETING ORDERS

Question: Your proposal for marketing orders saves $8,800,000. Who would bear the burden of these administrative costs?

Answer: Federal costs of administering the marketing agreements and orders programs would be apportioned among the milk, fruit, vegetable, and specialty crops marketing orders as equitably as possible. Producers and handlers regulated under the orders would be assessed for the Federal costs of administering the programs. Assessments would be collected by market administrators and local governing committees.

Question: Would representation of handlers and producers be limited by these costs?

Answer: Additional assessments to producers and handlers to recover Federal costs for administering the marketing agreements and orders program would have no effect on the representation of handlers and producers.

Question: Do these groups currently contribute to the administration of marketing orders? If so, what is their contribution?

Answer: The Agricultural Marketing Act of 1937 provides that funds to cover expenses of fruit, vegetable, and specialty crops marketing order administrative committees and milk market administration shall be acquired by levying assessments on handlers regulated under the orders. Presently, handlers regulated by Federal milk marketing orders provide approximately $35 million annually for the administration costs of the orders. The handlers of fruits, vegetables, and specialty crops under marketing orders provide approximately $8.6 million annually for the administration costs of their orders. However, none of the USDA costs to oversee these programs are borne by the industries.

Question: Mr. Boyle, you note in your testimony that civil penalty increases for violations of non-assessment marketing orders have been implemented. Has your agency been successful in the enforcement of marketing order violations?

Answer: In calendar year 1988, 89 fruit and vegetable marketing order cases were initiated and 30 cases were resolved. Sixty-eight of the 89 cases in 1988 occurred in the last quarter of the year. These can be attributed to a comprehensive compliance effort involving the California-Arizona citrus marketing orders. Many of these cases are in process now; some have been settled.

Recent collections include approximately $36,000 in settlement of USDA allegations of overshipment of navel oranges in the 1987-1988 season made by four handlers in the California-Arizona navel orange marketing order. Also in 1988, several successful prosecutions were concluded with cases fully resolved, including two cases under the California Tree Fruit Agreement, a potato case and an almond case. In addition, a raisin case was resolved with a stipulation and consent agreement and a lemon case was resolved with a payment of past due assessments and penalties.

The milk marketing order program relies to a great extent on voluntary compliance by regulated handlers. Sixty alleged violations were investigated in FY 1988. When violations do occur, the Department has a good enforcement record and recovers delinquent payments in most cases where the violator is solvent. When necessary, cases are referred to the Department of Justice for prosecution. In FY 1988, 20 cases were referred for prosecution, 15 court cases were resolved.

Question: Is the Justice Department taking swift action on these cases?

Answer: AMS has worked to improve cooperation with the Department of Justice on fruit and vegetable marketing orders, specifically with the U.S. Attorneys in California, in getting stronger support in prosecuting marketing order violation cases. To fulfill the Department's obligation to assist in prosecutions, AMS has been able to complete more and better documented investigations of alleged violations with the assistance of USDA's Office of the General Counsel. In addition, we are continuously working closely with various fruit and vegetable marketing order committees to improve documentation on cases.

In 1987, a Special Assistant to the U.S. Attorney in Fresno was appointed to work on USDA cases. This assistance has greatly accelerated the processing of fruit and vegetable marketing order cases.

The several U.S. Attorneys across the country do a commendable job of prosecuting milk marketing order cases. The speed and vigor of prosecution depends to a large extent on the resources available to each office. Milk marketing order cases tend to involve smaller sums of money than other issues facing the prosecutor and therefore sometimes receive a lower priority.

Question: What efforts have been taken to improve compliance with marketing orders?

Answer: AMS plans to resolve certain new compliance cases through authority given USDA under a recent amendment of the Agricultural Marketing Agreement Act of 1937. As you know, this amendment authorizes the use of an administrative adjudication process whereby, rather than going through the courts, USDA Administrative Law Judges can assess civil penalties after giving alleged violators an opportunity for an administrative hearing.

AMS held a compliance conference with fruit and vegetable industry marketing order committee managers and AMS compliance staff in November 1988. As a result of the many ideas and insights that were offered and discussed at the conference, we have been working to enhance our compliance procedures and guidelines. In addition, AMS Compliance Staff investigators are providing additional expertise to industry committees in order to facilitate successful prosecution of marketing order violation cases.

The Department has also increased the amount of late-payment penalties where appropriate to give added incentive for timely voluntary compliance.

## COMMODITY STANDARDS

Question: You recommend recovery of $3,700,000 on development of commodity standards. How would this proposal be implemented? Who would bear the costs?

Answer: Standardization user fee costs would be added to the current grading fee paid by the recipients of AMS commodity grading services. Our estimates show that grading fees would increase an average 3.3 percent, with individual rate increases ranging from a low of 1.4 percent to a high of 6.3 percent.

## TOBACCO NEWS REPORTS

Question: Tobacco news reports fees would save $30,000 according to your budget. Would user fees limit circulation of the reports?

Answer: When user fees for printed reports were originally implemented for other commodities there was a decline in the number of subscribers. We have no reason to believe it would be different for this commodity. However, there is little danger that farmers and others in the marketing chain will be deprived of market news information. AMS provides information to the industry through a number of media such as telephone answering devices, radio and television, data banks, newspaper columns, and all major wire services.

Question: Would quality of the market news suffer as a result?

Answer: The quality of market news would not suffer due to the reduction in the number of subscribers. The same volume of market information would be collected and analyzed.

Question: How much would you charge?

Answer: Yearly subscription rates for tobacco market news reports will range from $10.00 to $25.00. The spread reflects the length of the selling season between individual types of tobacco which directly affects the number of reports issued. These rates are comparable to seasonal reports issued for other commodities.

## ELIMINATION OF THE FEDERAL SEED ACT

Question: What would be the impact on interstate commerce if States do not uniformly implement labeling requirements for seed?

Answer: The Department feels that the States have adequate seed regulatory authority under their existing State laws to regulate seed without the specific regulation of seed in interstate commerce. Seed moving in interstate commerce will eventually come to rest in a State and be subject to the State law. However, States may want to amend their laws to include provisions equivalent to the provisions of Title V of the Federal Seed Act, which prohibits sale or advertisement by variety name of non-certified seed on which a plant variety protection certificate has been issued.

Question: Has your agency surveyed the States to determine which States have seed acts in place?

Answer: No formal survey has been conducted, but from our experience in working with the States, we are aware that all 50 States have seed laws in effect.

## WHOLESALE MARKET DEVELOPMENT PROGRAM

Question: How many on-going market development projects do you have?

Answer: The following projects are underway during fiscal year 1989. In addition, specialized technical studies were also conducted to help cooperators implement previous research or to address specific problems concerning the development or design of modern food marketing facilities. Examples of such studies would include the development of expansion plans for farmers' markets in South Carolina and modernizing and expanding a major produce market in Boston, Massachusetts.

| | State/Location | Project |
|---|---|---|
| 1. | Arizona | Marketing Alternatives for Phoenix, Arizona. Improve the technical efficiency and economic performance of the total food industry serving the greater Phoenix metropolitan area (Maricopa County). |
| 2. | Maryland | Impact Assessment and Long Range Development Planning for Existing Wholesale Food Distribution Centers. Examine growth, operations, and operating costs of produce firms on modern food centers and develop long-range development plans using the Maryland Wholesale Food Center, Jessup, Maryland, as a pilot study. |
| 3. | New York | Development Alternatives for the Hunts Point Food Distribution Center, Bronx, New York. Develop specific new facilities plans for relocating meat wholesale facilities to the Hunts Point Food Distribution Center. |
| 4. | New York | Improved Wholesale Food Distribution Facilities for Buffalo, New York. Identify the needs for specific improved wholesale food distribution facilities in the Buffalo, New York, region that are necessary to hold down marketing costs. |
| 5. | New York | Develop a Revitalization Plan for the Central New York Regional Market in Syracuse, New York. Develop plans for a revitalized and expanded wholesale food distribution center in Syracuse, New York. |
| 6. | Michigan | Expansion Potential for the Benton Harbor Fruit Market, Benton Harbor, Michigan. Identify new marketing facilities needed on the Benton Harbor Fruit Market, Benton Harbor, Michigan, to meet present and projected needs of the regional agricultural industry. |

| | State/Location | Project |
|---|---|---|
| 7. | Georgia | Analysis of the Location of Markets in a State System of Markets. Develop techniques for determining the optimum location and size of new farmers' markets using the Georgia State system of markets as an operating example. |
| 8. | Florida | Analysis of the Transportation System for Fresh Produce and Ornamentals from Florida. Determine the importance of northeastern wholesale food distribution centers as marketing outlets for Florida agricultural producers. |
| 9. | South Carolina | Feasibility of a Farmers' Market for the Piedmont Area, South Carolina. Evaluate the requirements for additional marketing facilities needed to support agricultural producers and buyers in upstate South Carolina. |
| 10. | N/A | Design and Operating Criteria for Central Refrigeration Systems on Wholesale Food Distribution Centers. Develop general design criteria for a central refrigeration system for a modern food center using revitalized marketing facilities in Syracuse, New York, as a pilot project. |
| 11. | Mississippi | Feasibility of Establishing a Farmers' Market in Tupelo, Mississippi. Evaluate the potential of developing new wholesale and farmers' market facilities to serve the "Big Ten" region of the State. |
| 12. | Kentucky | Feasibility of Farmers' Market in Northern Kentucky. Evaluate the feasibility of establishing a new model outlet for alternative agricultural crops for southern Kentucky farmers. |

Other projects supporting the Wholesale Market Program are:

| | | |
|---|---|---|
| 1. | National | Identification of Alternative Marketing Opportunities for Farmers. |
| 2. | National | Universal Product Code for Variable Weight Produce. |
| 3. | Florida | Alternative Methods for Disinfestation of Grapefruit for Export to Japan. |

| | State/Location | Project |
|---|---|---|
| 4. | Southeast States | Centralized Marketing for Fourteen Cooperatives in the Horticultural Producers Federation. |
| 5. | Washington | Developing Market Programs for Fresh Vegetables to Pacific Rim Countries. |
| 6. | Southeast States | Instrumentation of Tobacco Grading. |
| 7. | National | Impact of Decoupling Meat Grading. |
| 8. | Delaware | Developing a Vegetable Packing Facility. |
| 9. | Kentucky | Identifying Potential Roles of Industry Groups and Cooperatives in Expanding Agricultural Marketing. |
| 10. | Iowa | Feasibility of Building an Alfalfa Cubing Plant. |
| 11. | Maryland | Economic and Technical Feasibility for Reducing Salmonella During Broiler Handling. |
| 12. | Texas | Estimation of Retail Demand for Meat, Poultry and Seafood Based on Scanner Data. |
| 13. | Oklahoma | Evaluating Cost of Procurement, Processing and Distributing Farm-Raised Catfish. |
| 14. | Virginia | Evaluating Physical Distribution and Marketing for Shiitake Mushrooms. |
| 15. | Florida | An Analysis of Japanese Citrus Markets. |
| 16. | Georgia | An Economic Analysis of Post-Harvest Handling Systems for Broccoli. |
| 17. | Michigan | Exporting Dry Edible Beans to Europe. |

Question: Will all of these be concluded by the end of this fiscal year?

Answer: Of the projects listed above, the following market facilities studies will not be completed during fiscal year 1989: The feasibility of wholesale food center development in Phoenix, Arizona; additional development of the Hunts Point Market, New York, New York; and cooperative studies relating to farmers' market development in Kentucky, Georgia and Florida. Needs for research followup and specialized technical assistance in Syracuse and Buffalo, New York; San Diego, California; Southern New Jersey; and

Central North Carolina are also anticipated to continue beyond fiscal year 1989. In addition, State and local governments, food industry representatives, growers, community groups, and others have indicated interest in developing new marketing facility projects in South Carolina, Maine, Ohio, New York, Illinois, and Mississippi. The last four wholesale market projects will be completed by the end of the fiscal year. Six will be completed in fiscal year 1990 and five in fiscal year 1991.

Question: Have you obligated 1989 funds to any new project?

Answer: A study on instrumentation of tobacco grading and an additional study of the impact of decoupling yield and grade for meat were initiated in 1989. We are continuing to obligate funds in fiscal year 1989 for multi-year projects initiated in prior fiscal years.

## QUESTIONS SUBMITTED BY SENATOR COCHRAN

### COTTON STANDARDS

Question: Please explain the proposed revisions to the Universal Cotton Standards Agreement and why these revisions are necessary.

Answer: AMS is proposing to revise the agreement to establish a Universal Cotton Standards Advisory Committee to represent the cotton industry groups at each Universal Cotton Standards Conference called triennially to consider establishing, revising or changing the standards. This Committee would be composed of U.S. Cotton Producers and Ginners, U.S. Cotton Merchandisers, U.S. Textile Manufacturers, overseas merchant associations, and overseas spinner associations. This change was requested by the National Cotton Council on behalf of the domestic industry and would, for the first time, afford domestic cotton interests a role that is comparable to the privileges currently enjoyed by foreign interests. The committee's role would be advisory, with USDA making the final determination concerning standards.

### BEEF GRADES

Question: You recently changed the name of the beef grade from "good" to "select." What are the results of this change?

Answer: This change was made primarily to increase information available to consumers and to improve the marketing of beef for the industry. The use of the Select grade appears to be gaining momentum. A number of retail stores have indicated an interest, and some—especially in the Southwest—have begun purchasing officially graded Select beef. The grade name change from U.S. Good to U.S. Select became effective November 23, 1987.

Prior to the change, the Good grade comprised approximately 2 percent of the total beef graded; currently, the Select grade comprises over 7 percent. Accordingly, the use of the Select grade has more than tripled in volume as public awareness of the grade has increased.

## MARKET REPORTING

Question: I understand that the Agricultural Marketing Service recently installed a new satellite-based communications network that will allow AMS offices and private sector users quicker access to the AMS grain and livestock market reporting system. Since the system links AMS offices with satellite dishes, are there any provisions for backup in case of satellite or computer failure?

Answer: Yes, all information is also available through a communications network using dial-up telephone lines.

Question: Who will have access to the data?

Answer: Any authorized subscriber to the AMS Market News Telecommunications System can gain access to the data.

Question: What kinds of equipment will the private sector need to gain access? And at what cost?

Answer: There are three options available from Telenet for the private sector subscribers to gain access to the data. Under the first option, a subscriber receives the data via satellite broadcast utilizing earth station equipment (receive disk, data selector, controller and software). The costs vary from $196.74 per month to $215.16 per month depending on the type of equipment requested and the zone in which the subscriber is located. In addition, there are monthly port charges of $80 and one-time installation fees for the equipment.

The second and third options allow the subscriber to access the information through a communications network using dial-up telephone lines. Under these options, the subscriber will need a computer terminal, dial-up modem and a telephone line. Charges will be at the standard Telemail usage rates with USDA discounts and other charges appropriate to the level and type of usage.

Question: What cost savings do you see as a result of this new technology?

Answer: AMS anticipates a cost avoidance of $130,000 by converting to the new satellite system.

---

## QUESTIONS SUBMITTED BY SENATOR MCCLURE

### WOOLGROWERS PROMOTION FUNDS

Question: Mr. Boyle, my staff informs me that you have been particularly helpful in the past several months in dealing with a request by the Idaho woolgrowers to obtain a refund of their national promotion funds to be used in a regional promotion program. I would like to thank you for your efforts to explain the situation to the Secretary prior to a decision being made on this matter. I recently received a letter of response from Secretary Yeutter.

I appreciate very much the fact that the answer was not immediately no, but I am confused as it doesn't say yes either. Do I understand that the answer to the woolgrowers' request is that if the National Wool Act is extended in the next farm bill, AMS/USDA will review the promotion agreement and if the "industry" agrees, allow the use of promotion funds by qualified National, State or other organizations to be used for promotion programs?

Does the definition of "industry" mean a part of the industry, such as state and regional industry, or is it more narrowly construed to mean the whole industry in the U.S.? In other words, if the Idaho woolgrowers want to create a regional or state promotion program, does the entire industry in the U.S. have to agree before the promotion funds are returned to Idaho?

Answer: If the Idaho woolgrowers want to create a regional or state promotion program, the entire industry in the U.S. does not have to agree. The desires of the producers voting in a referendum in that State or region would determine whether a State or regional promotion agreement would be approved or disapproved. We would consider a request from the Idaho woolgrowers for a regional or State promotion program on its own merits.

---

## QUESTION SUBMITTED BY SENATOR KASTEN

### RECONSTITUTED MILK

Question: Another concern is that of reconstituted milk. The current milk marketing order system means that reconstituted milk cannot compete with fluid milk. Would USDA consider holding a hearing on reconstituted milk?

Answer: We would consider a proposal on reconstituted milk as long as it met the policies set by the Agricultural Marketing Act of 1937, as amended. As you know, in the early 1980's, extensive consideration was given to a proposal by the Community Nutrition Institute to completely deregulate reconstituted milk. The proposal was denied on the basis that it would undermine the classified pricing of milk to handlers as prescribed by the Act. Additionally, consumers would have received negligible benefits from the proposal while dairy farmers within the governing marketing order would have suffered substantially reduced returns. The denial also pointed out that consumers can buy nonfat dry milk at stores for reconstitution at home. Currently, we are evaluating the marketing order effects of reconstituted fresh concentrate. Other modifications also may be worthy of consideration.

## SUBCOMMITTEE RECESS

Senator **Grassley**. This concludes today's hearing. The subcommittee will next meet on Tuesday, April 11 at 10 a.m., in room SD-138 and we will review the budgets of the Farmers Home Administration, the Federal Crop Insurance Corporation, and the Rural Electrification Administration.

The subcommittee now stands in recess. Thank you all.

[Whereupon, at 11:07 a.m., Thursday, April 6, the subcommittee recessed, to reconvene at 10 a.m., Tuesday, April 11.]

# LIST OF WITNESSES, COMMUNICATIONS, AND PREPARED STATEMENTS

Pages

Backus, Richard R., Acting Deputy Administrator of the Plant Protection and Quarantine Programs, Animal and Plant Health Inspection Service, biographical sketch ..... 514
Bayley, Molly, Executive Director, Commodity Futures Trading Commission..... 315
Benson, James S., Acting Deputy Commissioner, Food and Drug Administration ..... 393
    Biographical sketch..... 418
Bentley, Orville G., Assistant Secretary for Science and Education ..... 93
    Prepared statement ..... 98
Bode, John, Assistant Secretary for Food and Consumer Services ..... 221
    Prepared statement ..... 223
Bolinger, Madge, Budget Director, Commodity Futures Trading Commission..... 315
Boyle, J. Patrick, Administrator, Agricultural Marketing Service..... 503
    Prepared statement ..... 520
Braley, George, Deputy Administrator, Food and Nutrition Service ..... 221
Bronson, Michael, Director, Office of Administration, Farm Credit Administration..... 355

Claunts, Frank P., Director, Division of Financial Management, Food and Drug Administration ..... 393
Clayton, Kenneth C., Deputy Administrator for Marketing Programs, Agricultural Marketing Service, biographical sketch ..... 523
Crawford, Lester, Administrator, Food Safety and Inspection Service ..... 503
    Prepared statement ..... 515

Dewey, Anne E., General Counsel, Farm Credit Administration..... 355
Dewhurst, Stephen B., Budget Officer, Department of Agriculture ..... 1
Duncan, Marvin R., President and Chief Executive Officer, Farm Credit Administration..... 355
    Prepared statement ..... 358
Dunn, Scott, Acting Administrator, Food and Nutrition Service..... 221
    Prepared statement ..... 225
    Biographical sketch..... 228

Evans, Gary R., Deputy Administrator for National Programs, Agricultural Research Service, biographical sketch ..... 107

Gilles, Kenneth, Assistant Secretary for Marketing and Inspection..... 503
    Prepared statement ..... 507
Glosser, James, Administrator, Animal and Plant Health Inspection Service..... 503
    Prepared statement ..... 510
Gramm, Wendy L., Chairman, Commodity Futures Trading Commission..... 315
    Prepared statement ..... 318
Gregoire, Michael C., Acting Director, Budget and Accounting Division, Animal and Plant Health Inspection Service, biographcal sketch..... 515

Heimbach, James T., Acting Administrator, Human Nutrition Information Service..... 221
    Prepared statement ..... 228
    Biographical sketch..... 232
Holston, Sharon Smith, Associate Commissioner, Food and Drug Administration ..... 393

Page

Hudnall, William J., Jr., Deputy Administrator, Administrative Management, Food Safety and Inspection Service, biographical sketch .......... 520

Johnsrud, Myron D., Administrator, Extension Service .......... 93
  Prepared statement .......... 110
Jordan, John Patrick, Administrator, Cooperative State Research Service .......... 93
  Prepared statement .......... 107

King, Lonnie J., Deputy Administrator for Veterinary Services, Animal and Plant Health Inspection Service, biographical sketch .......... 514

Long, Robert, Deputy Assistant Secretary for Science and Education .......... 93

McClure, Hon. James A., U.S. Senator from Idaho, prepared statement .......... 21, 125
Myers, Peter, Deputy Secretary of Agriculture .......... 1
  Letter from .......... 43

O'Connor, Thomas, Acting Deputy Administrator, Food and Nutrition Service 221
Oltjen, Robert R., Associate Deputy Administrator, Animal and Postharvest Sciences, National Program Staff, Agricultural Research Service, biographical sketch .......... 106

Packham, Joe C., Deputy Administrator for the Animal Damage Control Program, Animal and Plant Health Inspection Service, biographical sketch . 514
Peoples, Kenneth L., General Counsel, Farm Credit System Assistance Board.. 345
Plowman, R. Dean, Administrator, Agricultural Research Service .......... 93
  Prepared statement .......... 102
  Biographical sketch .......... 106

Scarlett, Thomas, Chief Counsel, Food and Drug Administration .......... 393
Sherman, Robert, Deputy Budget Officer, Department of Agriculture .......... 93, 221

Thor, Eric P., President and Chief Executive Officer, Farm Credit System Assistance Board .......... 345
  Prepared statement .......... 350

Wachs, Lawrence, Associate Director, Budget Office, Department of Agriculture .......... 503

Yeutter, Clayton, Secretary of Agriculture .......... 1
  Prepared statement .......... 6
  Biographical sketch .......... 14
Young, Frank E., Commissioner, Food and Drug Administration .......... 393
  Prepared statement .......... 402
  Biographical sketch .......... 417

# SUBJECT INDEX

## DEPARTMENT OF AGRICULTURE

### OFFICE OF THE SECRETARY

Page
ATTRA project ........ 69
Barley ........ 56
Budget:
  1990 ........ 4, 9
  Amendment ........ 56
  Savings ........ 30
Child nutrition programs ........ 64, 76, 80
Clean water versus chemicals ........ 20
Commodity Credit Corporation ........ 87
Conservation:
  Cost sharing ........ 41
  Law enforcement ........ 37
  Reserve ........ 53, 58, 72
Consulting services ........ 58
Credit programs ........ 10
Crop insurance ........ 13, 49, 50
Discretionary programs ........ 52
Diversification ........ 89
Economic situation overview ........ 2
ECP congressional directive ........ 82
EEP cap ........ 50
Export enhancement ........ 56, 76
Exports ........ 11, 16
Farm bill:
  1985 ........ 85
  1990 ........ 90
Farm Credit Assistance Corporation ........ 70
Farm:
  Income ........ 44
  Price and income supports ........ 9
  Program administration ........ 14
Fish and Wildlife Service ........ 47
Flexible freeze ........ 11
Food:
  Assistance ........ 10, 54
  Programs ........ 5
Food Stamps ........ 18
Foreign currency research ........ 71
Futures and options marketing ........ 81
Ground water ........ 5, 20
Guaranteed loan risks ........ 26
Guaranteed versus direct loans ........ 27
Industrial use crops ........ 79
Industrial use planting on set-aside lands ........ 33
Initiatives ........ 34
Inspection ........ 13
Introductions ........ 15
Kimzey water system ........ 71
Land diversion ........ 31

Page

Loan:
  Guarantees
  Marketing agreements 25
  Programs 19
Low-income nutrition education 6
Low-input research 73
Marketing and inspection 88
Milk marketing orders 13, 86
Office of Energy 35
Opening remarks 83
Operating funds 1
Outlook for 1989 28
Paid land diversion 7
Pesticide: 31
  Clearance grants
  Research 77
Poultry disaster 23
Public Law 480 15
Puerto Rico, nutrition assistance for 66
Questions submitted 65
REA loans 51
Research and education 70, 79
Rice research facility 12
Rural: 69
  Development 63, 89
  Electrification 54
  Water program funding
School lunch 40
Sodbusting 75
Soil and water conservation 45
Soybeans in Brazil 11, 43
Special milk 17
States, payments to 80
Sustainable agriculture 73
Swampbuster enforcement 33
TEFAP 72
Timber policy 66
Trade: 48
  Promotion
  Reform 67
Water and Sewer Program 3, 8
Water quality 90
Wetlands 10, 36, 85
WIC budget 46
55, 63

## Agricultural Research Service

## Cooperative State Research Service

## Extension Service

1890 Colleges
Agricultural products 139, 196, 211
Agricultural Research Service 97
Animal health and disease 93
Animal health research 206
Aquaculture 136
ARS facilities 144, 159, 200, 214
ATTRA 165
Basic research 141, 212
Biotechnology center 147
Budget, 1990 136
Calcium magnesium acetate 105, 108, 112
Caliciviruses 149
Commodities 193
Competitive research grants 146
Cooperative State Research Service 97, 202
93, 203

Page
Dark end syndrome ... 188
DINOSEB ... 190, 210
EFNEP ... 122
Extension priorities ... 93, 97, 101, 216
Farm safety ... 217
Federal administration ... 213
Forestry research ... 197
Germplasm preservation ... 96
Global change ... 95, 163, 203
Ground water quality ... 135
Hatch Act ... 197
Higher education ... 97, 109
Human capital development ... 100
Human nutrition centers ... 150
Idaho, CSRS funding in ... 205
International trade development ... 199, 209
Iowa extension review ... 145
IR-4 Program ... 152, 197
KENAF ... 148
Low-input agriculture ... 124, 135, 155, 207
Meadowfoam research ... 194
National Agricultural Library ... 97
National Animal Disease Center ... 142
National Seed Storage Laboratory ... 143, 187, 193
Opening remarks ... 93
Ozone ... 137, 207
Pest management ... 211, 217
Pesticide:
  Alternatives ... 140
  Impact assessment ... 153, 208
Pesticides ... 96, 99
Plant:
  Gene mapping ... 126
  Genome mapping ... 101
  Science research ... 126
Potato research ... 187, 210
Questions submitted ... 154
R&D funds, small business' share of ... 199
Research ... 133, 143, 161
Rice ... 138, 139
RREA ... 212, 217
Rural:
  Development ... 215, 218
  Recovery pilot projects ... 123
Russian wheat aphid ... 128
Safflower research ... 123
Science base ... 99
Sheep experiment station ... 189
Small fruits research ... 194, 209
Soil tilth laboratory ... 144
Special Foreign Currency Program ... 165
Spring and Ground Water Institute ... 158
Sustainable agriculture ... 96, 131
TCK smut research ... 129
University of Arkansas ... 140
Urban pest control research ... 186, 204
Water quality ... 95, 99, 114, 121, 124, 155, 191, 206

## FOOD AND NUTRITION SERVICE

## HUMAN NUTRITION INFORMATION SERVICE

Adult day care ... 247, 258, 283
Agency administration ... 228
Antideficiency Act ... 282
Automation ... 225
Budget initiatives ... 308

Page
Catfish industry ... 242
Child nutrition/Federal review system ... 227, 232, 243
Child nutrition programs ... 241, 266, 281, 288
Commodity letters of credit ... 301
Commodity Supplemental Feeding Program ... 269
CSFII 1985 ... 261
Dietary guidelines ... 249, 265, 285, 305
Drought's effects ... 241
Duplication avoidance ... 312
Eating patterns ... 263
EBT ... 225, 226
Error reduction ... 227
Federal review system ... 302
FNS programs, participation in ... 313
Food and Nutrition Service ... 221
Food:
    Banks ... 282, 309
    Program management ... 273
    Safety ... 287
Food Stamps ... 248, 272, 280, 289, 304, 307
Health care ... 240
HNIS and DHHS ... 264
Human Nutrition Information Service ... 221
    1990 budget ... 230
Hunger Prevention Act ... 297
NET ... 268
Nutrients ... 262
Nutrition and health ... 249
Nutrition:
    Assistance ... 237
    Monitoring ... 260, 293
Opening remarks ... 221
Puerto Rico ... 250, 259, 298
Questions submitted ... 251
Rural homeless, commodities for ... 298
School claims, review of ... 252, 277, 299
Special Supplemental Food Program ... 234, 276
Tax incentives ... 292
TEFAP ... 241, 267, 280, 291, 310
Thrifty food plan ... 274
WIC:
    Cost containment ... 227, 235, 254
    Expansion ... 256
WIC Program ... 246, 270, 279, 283, 301, 306
Welfare reform ... 225, 226

COMMODITY FUTURES TRADING COMMISSION

FARM CREDIT ASSISTANCE BOARD

FARM CREDIT ADMINISTRATION

FOOD AND DRUG ADMINISTRATION

Aflatoxin ... 485
Agricultural credit associations ... 386
Agricultural markets ... 341
AIDS ... 404, 448, 499
Alar ... 469
Aldicarb ... 467, 482
Aquaculture ... 414
Audit trail ... 319, 328
Automated information system ... 356
Biotechnology ... 394, 402, 410, 424, 440 ,480
Blood banks ... 452
Board policy, organization and actions ... 346, 351
Borrower rights ... 388, 391

Page
Budget:
  Amendment 338
  FCA 355
  Requests 328, 416, 436
Budgetary flexibility 357
Charts 418
Chilean grapes 428, 450, 488
Commissioned examiners 356
Commodity Futures Trading Commission 315
Contact lenses 433
Cooperative facilities 396
Credit related services 389
Critical space shortage 459
Debt collection 336
Drought 344
Drug:
  Abuse 409, 447
  Application reviews 453, 461
  Review process 457
Dual trading 319, 327
Emergencies 404
Enforcement 321
Farm Credit Administration 355
Farm Credit Assistance Board 345
Farm Credit System Assistance Corporation 364
Fat:
  Labeling 425
  Substitutes 446
FCA and FAMC 363
FDA and academia 416
FDA facilities 438
Federal Agricultural Mortgage Corporation 363, 381
FmHA demonstration project 369, 392
Food and Drug Administration 393
Food labeling 442
Futures market 339
Generic Animal Drug and Patent Term Restoration Act 451, 478, 491
Generic animal drugs 474
Globex 319, 329, 331
Growth hormones 481
Hybrid instruments 331
Import inspections 451, 476
Imported foods 470, 477
International arena 320
Interest expense for 1989 and 1990 375
Introductions 345
Jackson Federal Land Bank 376
Lawsuits 382, 390
Litigation and regulations 357
Livestock futures 342
Market surveillance 321, 333
Medical device review 462
Milk, sulfamethazine in 415
National Special Asset Council 379
NCTR pilot project 430
Off-exchange 320
Omaha Bank 369
Opening remarks 315
Oversight 319
Personnel 447, 464, 478
Pesticides 414, 469, 475
Post-market surveillance 425
Potatoes 484
Prescription drugs, off-label use of 494
Product review process 476
Questions submitted 330, 374
Recruitment 433, 444, 461

Rural development ........ Page
Salmonella ........ 385
Self-regulation ........ 412, 492
Spokane Farm Credit District ........ 332
Staffing ........ 378
Supplemental for 1989 ........ 334
Training grants ........ 439
Undercover investigation ........ 432
Urethane ........ 325
User fees ........ 457
........ 428, 435, 438, 465, 493, 495

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

FOOD SAFETY AND INSPECTION SERVICE

AGRICULTURAL MARKETING SERVICE

Agricultural Marketing Service ........
Agricultural quarantine inspection ........ 503, 505, 509
Aldicarb ........ 528, 547
Animal and Plant Health Inspection Service ........ 602
Animal: ........ 503, 505, 506
  Damage control ........
  Disease detection ........ 543, 546
  Welfare ........ 555
Aphis objectives and challenges ........ 513
Avian influenza ........ 511
Beef grades ........ 553
Beef/hormone ban ........ 610
Biological control ........ 588
Boll weevil ........ 539, 541
Brucellosis ........ 551
Budget, 1990 ........ 552
Buildings and facilities ........ 504, 508, 512, 516
Caliciviruses ........ 513, 554
Cattle ticks ........ 566
Chemicals ........ 553
Commodity standards ........ 527
Cotton standards ........ 605
CPT ........ 610
Emergency response flexibility ........ 546
Emergencies, response to ........ 550
Federal Seed Act ........ 580
Federal-State Marketing Improvement Program ........ 606
Fish inspection ........ 526
Food Safety and Inspection Service ........ 579
Foreign meat ........ 503, 506, 509
Grasshopper ........ 589
Guarding Dog Program ........ 559
Gypsy moth ........ 565
Heptachlor contamination ........ 565
Imported foods ........ 598
Inspection system ........ 587
IPI ........ 519, 525, 567
  Budgetary impact of ........ 568, 600
Labeling policies ........ 577
Leafy spurge ........ 517
Legislative proposals ........ 524
Market reporting ........ 522
Marketing orders ........ 611
Meatpacker concentration ........ 534
Microbiological: ........ 533
  Contamination ........
  Control ........ 575
Noxious weed ........ 518
Opening remarks ........ 557
Pesticides ........ 503
545

Page

Poultry slaughter ... 581
Program eliminations ... 522
Pseudorabies ... 529, 547
Questions submitted ... 540
Rapid tests ... 599
Reconstituted milk ... 612
Russian wheat aphid ... 523, 558
Scrapie eradication and research ... 531, 538, 548
Statutory authority ... 521
Sulfamethazine ... 517, 599
Swine:
  Brucellosis ... 524
  Semen ... 536
Tobacco ... 606
Wholesale market development ... 606
Woolgrowers promotion funds ... 611